Roland

DWX-51D

Setup Guide

Read this first

This guide describes the setup tasks and important conditions about the installation location that must be met in order to enable use of this machine.

EASY SHAPE Roland DENTAL SOLUTION

Roland DG Corporation has developed a special website introducing dental solutions. For the latest information regarding this machine (including manuals), see our special Easy Shape website (http://www.rolandeasyshape.com).

Roland DG Corporation

Thank you very much for purchasing this product.

- To ensure correct and safe usage with a full understanding of this product's performance, please be sure to read through this manual completely and store it in a safe location.
- Unauthorized copying or transferal, in whole or in part, of this manual is prohibited.
- The contents of this operation manual and the specifications of this product are subject to change without notice.
- The operation manual and the product have been prepared and tested as much as possible. If you find any misprint or error, please inform us.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur through use of this product, regardless of any failure to perform on the part of this product.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

Applicable EMC Standards: EN 61326-1 (Class A), EN 55011 (Class A, Group 1), EN 61000-3-2, EN 61000-3-3

This is a Class A product.
In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This product is a Group 1 device.
Radio frequency energies in the form of electromagnetic radiation, induction, and/or electrostatic bonding are not used nor deliberately emitted when processing material or during examination/analysis.

Roland DG Corporation has licensed the MMP technology from the TPL Group.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.

Use only I/O cables that have been designed and manufactured specifically for this device.

For Canada

CAN ICES-3 (A)/NMB-3(A)

For California

WARNING
This product contains chemicals known to cause cancer, birth defects and other reproductive harm, including lead.

NOTICE

Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

For EU Countries

CE

Manufacturer:
ROLAND DG CORPORATION
1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi, Shizuoka-ken, 431-2103 JAPAN

The authorized representative in the EU:
Roland DG EMEA, S.L.
Parc Tecnologic del Valles C/ Ceramistes, 6 08290 Cerdanyola del Valles / Barcelona Spain

Roland DG Corp. has licensed the MMP technology from the TPL Group.

Operating Instructions

KEEP GUARDS IN PLACE and in working order.

REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.

MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starker keys.

DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

USE RIGHT TOOL. Don't force tool or attachment to do a job for which it was not designed.

USE PROPER EXTENSION CORD. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

USE SAFETY GLASSES, face or dust mask if cutting or cleaning operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

SECURE WORK. Use clamps or a vise to hold work when practical.

DON'T OVERREACH. Keep proper footing and balance at all times.

MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

DISCONNECT TOOLS before servicing; when changing accessories, such as blades, bits, cutters, and the like.

REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.

USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.

NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function - check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.

USE POWER SUPPLY CORD WHICH IS ATTACHED WITH PRODUCTS. do not use other power supply cord.

PERFORM CLEANING USING A DUST COLLECTOR OR A COMMERCIALLY AVAILABLE BRUSH. Never use a solvent such as gasoline, alcohol, or thinner to perform cleaning.

CONNECT THE USB CABLE TO THE COMPUTER (Certified with IEC/EN60950-1) with the suitable flammability rating which was estimated by IEC/EN61010-1 3rd Edition (Cl. 9).

USE AN EXTERNAL CABLE AND A DUST COLLECTOR with the suitable flammability rating which was estimated by IEC/EN61010-1 3rd Edition (Cl. 9).

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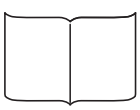
Machine Highlights

What You Can Do with This Machine

This machine is a dental cutting and milling machine that uses Zirconia, PMMA, PEEK, Composite resin, and Wax to make dental prostheses, including crowns, copings, and bridges.
Installing and setting up the exclusive software on your computer and connecting your computer to this machine enables you to create high-quality dental prostheses.
For the latest information regarding this machine (including manuals), see our special Easy Shape website (http://www.rolandeasyshape.com).

Documentation Included with the Machine

The following documentation is included with the machine.

DWX-51D	
 **Setup Guide (this manual)**	**Be sure to read this first.** **• Machine installation procedure** **• Software installation procedure**
User's Manual (electronic-format manual)	**You can find the manual on the included Roland Software Package CD.** ☞P. 37"How to View the Electronic-Format Manual" **• Software operation procedure** **• Milling procedure using the machine** **• Maintenance procedure**

⚠ To Ensure Safe Use

Improper handling or operation of this machine may result in injury or damage to property. Points which must be observed to prevent such injury or damage are described as follows.

About ⚠ WARNING and ⚠ CAUTION Notices

⚠ **WARNING**	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ **CAUTION**	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well as to domestic animals or pets.

About the Symbols

	The △ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the △ symbol. The symbol at left means "danger of electrical shock."
	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific meaning of the symbol is determined by the design contained within the ⃠ symbol. The symbol at left means the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific meaning of the symbol is determined by the design contained within the ● symbol. The symbol at left means the power-cord plug must be unplugged from the outlet.

⚠ Incorrect operation may cause injury

⚠ WARNING

Always unplug the power cord when attaching or removing parts and optional parts and when performing cleaning or maintenance that does not require the machine to be connected to a power source.
Attempting such operations while the machine is connected to a power source may result in injury or electrical shock.

Keep children away from the machine.
The machine includes areas and components that pose a hazard to children and may result in injury, blindness, choking, or some other serious accident.

Never attempt to disassemble, repair, or modify the machine.
Doing so may result in fire, electrical shock, or injury. Entrust repairs to a trained service technician.

Be sure to follow the operation procedures described in the user's manual. Never allow anyone unfamiliar with the usage or handling of the machine to touch it.
Incorrect usage or handling may lead to an accident.

Never operate the machine while tired or after ingesting alcohol or any medication.
Operation requires unimpaired judgment. Impaired judgment may result in an accident.

Conduct operations in a clean, brightly lit location.
Working in a location that is dark or cluttered may lead to an accident, such as becoming caught in the machine as the result of an inadvertent stumble.

⚠ WARNING

Never climb or lean on the machine.
The machine is not made to support a person. Climbing or leaning on the machine may dislodge components and cause a slip or fall, resulting in injury.

Be careful around the milling tool.
The milling tool is sharp. Broken milling tools are also dangerous. To avoid injury, exercise caution.

Never use a milling tool that has become dull. Perform frequent maintenance to keep the machine in good working order.
Unreasonable usage may result in fire or injury.

Never operate the machine if the cover is cracked or broken.
Doing so may result in injury. If the cover is cracked or broken, contact your authorized Roland DG Corporation dealer.

⚠ CAUTION

Remove the milling bur before performing replacement work.
Contact with the blade may cause injury.

⚠ This is a heavy machine.

⚠ CAUTION

Unloading and placement are operations that must be performed by 4 persons or more.
Tasks that require undue effort when performed by a small number of persons may result in physical injury. Also, if dropped, such items may cause injury.

⚠ CAUTION

Install the machine in a location that is level, stable, and able to bear the weight of the machine.
The total weight of the machine may reach 70 kg (155 lb.) or more. Installation in an unsuitable location may cause a major accident, including tip over, fall, or collapse.

⚠ Milling waste and workpieces are flammable and toxic.

⚠ WARNING

Never attempt to mill magnesium or any other such flammable material.
Fire may occur during milling.

Never attempt to mill metal, carbon, or any other such conductive material.
Fire may occur during milling.

Keep open flame away from the work area.
Milling waste may ignite. Powdered material is extremely flammable, and even metal material may catch fire.

⚠ WARNING

Never use a vacuum cleaner to clean up milling waste.
Picking up fine cuttings using an ordinary vacuum cleaner may result in fire or explosion.

Wear dust goggles and a mask. Wash away any milling waste that gets on your hands.
Accidentally swallowing or inhaling milling waste may be hazardous to your health.

⚠ Danger of pinching, entanglement, and burns

⚠ WARNING

Securely fasten the milling tool and workpiece in place. After securing in place, make sure no spanners or other articles have been left behind inadvertently.
Otherwise, such articles may be thrown from the machine with force, posing a risk of injury.

Do not touch the spindle unit or the surrounding areas immediately after milling has ended.
Doing so may result in burns..

⚠ CAUTION

Never attempt operation while wearing a necktie, necklace, or loose clothing. Bind long hair securely. When performing operations while wearing gloves, exercise sufficient caution to prevent entanglement in the machine.
Such items may become caught in the machine, resulting in injury.

⚠ Danger of electrical short, electrical shock, or fire

⚠ WARNING

Connect to an electrical outlet that complies with this machine's ratings (for voltage, frequency, and current).
Incorrect voltage or insufficient current may cause fire or electrical shock.

If sparking, smoke, burning odor, unusual sound, or abnormal operation occurs, immediately unplug the power cord. Never use if any component is damaged.
Continuing to use the machine may result in fire, electrical shock, or injury.
Contact your authorized Roland DG Corp. dealer.

Never use outside or in any location where exposure to water or high humidity may occur. Do not touch the power cord, plug, or electrical outlet with wet hands.
Doing so may result in fire or electrical shock.

Never allow any foreign object to get inside. Never expose the machine to liquid spills.
Inserting objects such as coins or matches or allowing beverages to be spilled into the ventilation ports may result in fire or electrical shock. If anything gets inside, immediately disconnect the power cord and contact your authorized Roland DG Corporation dealer.

Never place any flammable object nearby. Never use a combustible aerosol spray nearby. Never use in a location where gases can accumulate.
Combustion or explosion may occur.

Handle the power cord, plug, and electrical outlet correctly and with care. Never use any damaged article.
Using a damaged article may result in fire or electrical shock.

For accessories (optional and consumable items, power cord, and the like), use only genuine articles compatible with this machine.
Incompatible items may lead to an accident.

⚠ WARNING

When using an extension cord or power strip, use one that adequately satisfies the machine's ratings (for voltage, frequency, and current).
Use of multiple electrical loads on a single electrical outlet or use of a lengthy extension cord may cause fire.

Position so that the power plug is within immediate reach at all times.
This is to enable quick disconnection of the power plug in the event of an emergency. Install the machine next to an electrical outlet. Also, provide enough empty space to allow immediate access to the electrical outlet.

Never use the machine for any purpose for which it is not intended, and never use the machine in an undue manner that exceeds its capacity.
Doing so may result in injury or fire.

Do not use the supplied power cord for other products.

If the machine is not used for long hours, disconnect the power cord.
This prevents an accident caused by unexpected electric leakage or unintentional start of the machine.

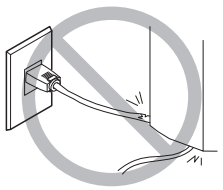
Connect to ground.
This can prevent fire or electrical shock due to current leakage in the event of a malfunction.

Never use cutting oil.
This machine was not designed for the flow of cutting oil. Oil may get inside the machine and cause fire or electrical shock.

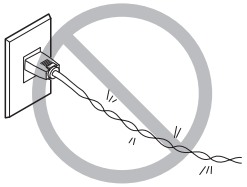
Never use a pneumatic blower.
This machine is not compatible with a pneumatic blower. Milling waste may get inside the machine and cause fire or electrical shock.

Never use a solvent such as gasoline, alcohol, or thinner to perform cleaning.
Doing so may cause a fire.

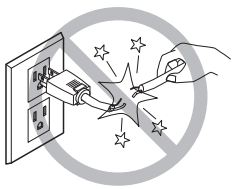
⚠ Important notes about the power cord, plug, and electrical outlet



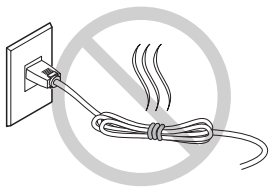
Never place any object on top or subject to damage.



Never bend or twist with undue force.

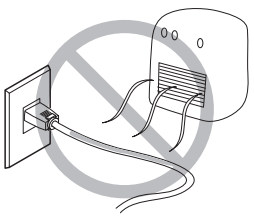


Never pull with undue force.

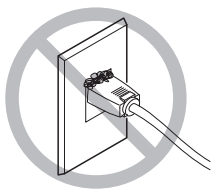


Never bundle, bind, or roll up.

Never allow to get wet.



Never make hot.



Dust may cause fire.

⚠ Danger of components flying off or becoming damaged

⚠ WARNING

Ensure that the supplied compressed air is not contaminated by water, oil, chemicals, or foreign objects.
The components may deteriorate or rupture, or the contaminants may be scattered, posing a hazard.

Never use in a location exposed to cutting oil, solvents, chemicals, or other such substances.
Components may deteriorate or rupture under the pressure of compressed air.

Never use in a location exposed to direct sunlight.
Components may deteriorate or rupture under the pressure of compressed air.

Keep the temperature of the installation area within the specified range. Never place a stove or heater nearby.
Components may deteriorate or rupture under the pressure of compressed air.

⚠ WARNING

Connect the air hose securely, so that it will not come loose.
A pressurized hose that comes loose may whip about uncontrolled, posing a hazard. Connect securely.

Before attempting to attach or detach the air hose or optional items or before attempting to perform cleaning or maintenance that does not require the machine to be connected to a power source, stop the supply of compressed air and allow the pressure to escape.
Allowing the equipment to remain under pressure poses a hazard of flying components.

Use an air hose with the specified diameter and with adequate pressure resistance.
Otherwise, the hose may come loose or rupture.

⚠ Danger of components flying off or becoming damaged

⚠ WARNING

Keep the supply of compressed air within the specified pressure range.
Exceeding the specified pressure may result in a rupture or other major accident.

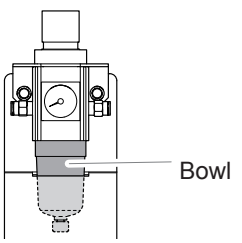
Never strike or subject the object to impacts.
Components may become damaged or rupture under the pressure of compressed air.

When the machine will be out of use for a prolonged period, stop supply of compressed air and bleed off the air pressure.
This can prevent an accident.

Never damage the air hose, or bend or twist it with undue force. Never use any deteriorated article.
A damaged air hose may rupture.

⚠ WARNING

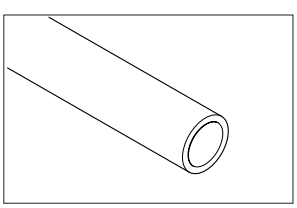
Before removing or attaching the regulator and before performing maintenance, make sure that the bowl is securely attached.
If the bowl is not properly attached, it may come flying off when compressed air is supplied.

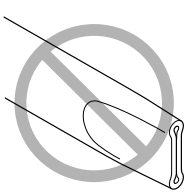


Clean the regulator bowl using a neutral detergent. Never use solvents such as gasoline, alcohol, or thinner.
Using solvents may degrade the bowl and may result in a rupture.

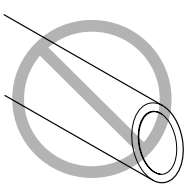
⚠ Important notes about the end (cut edge) of the air hose

Failure to observe these cautions may result in air leakage or easy dislodgement of the air hose. Also, after removing a hose, cut off the end before reattaching it.

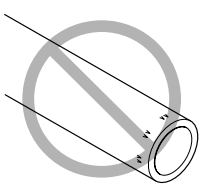




Ensure that the hose is not crushed.



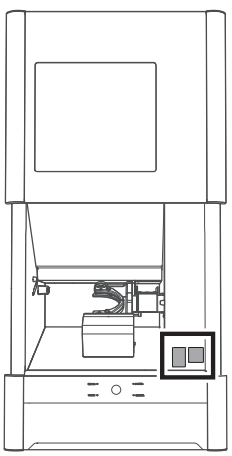
Make the cut edge straight.



Keep free of damage and soiling.

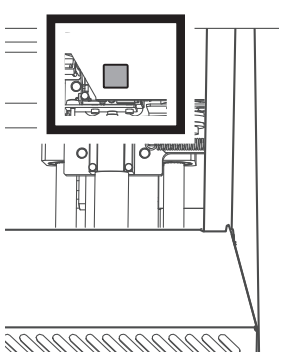
⚠ Warning Labels

Warning labels are affixed to make areas of danger immediately clear. The meanings of these labels are as follows. Be sure to heed their warnings. Also, never remove the labels or allow them to become obscured.

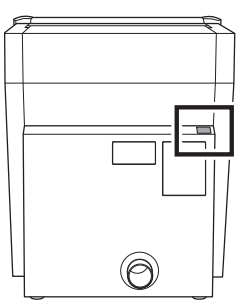


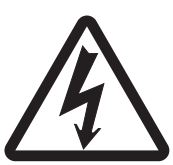
Caution: Sharp Tool
The milling tool has a sharp point.
Inadvertent contact may cause injury.

Never use a pneumatic blower.
This machine is not compatible with a pneumatic blower. Milling waste may get inside the machine and cause fire or electrical shock.



Caution: High temperatures
Do not touch the spindle unit or the surrounding areas immediately after milling has ended. Doing so may result in burns.





Caution: High Voltage
Removing the cover may result in high-voltage electric shock.

⚠ Pour utiliser en toute sécurité

La manipulation ou l'utilisation inadéquates de cet appareil peuvent causer des blessures ou des dommages matériels. Les précautions à prendre pour prévenir les blessures ou les dommages sont décrites ci-dessous.

⚠ Avis sur les ⚠ avertissements

⚠ **ATTENTION**	Utilisé pour avertir l'utilisateur d'un risque de décès ou de blessure grave en cas de mauvaise utilisation de l'appareil.
⚠ **PRUDENCE**	Utilisé pour avertir l'utilisateur d'un risque de blessure ou de dommage matériel en cas de mauvaise utilisation de l'appareil. * Par dommage matériel, il est entendu dommage ou tout autre effet indésirable sur la maison, tous les meubles et même les animaux domestiques.

À propos des symboles

	Le symbole △ attire l'attention de l'utilisateur sur les instructions importantes ou les avertissements. Le sens précis du △ symbole est déterminé par le dessin à l'intérieur du triangle. Le symbole à gauche signifie « danger d'électrocution ».
	Le symbole ⃠ avertit l'utilisateur de ce qu'il ne doit pas faire, ce qui est interdit. Le sens précis du ⃠ symbole est déterminé par le dessin à l'intérieur du triangle. Le symbole à gauche signifie que l'appareil ne doit jamais être démonté.
	Le symbole ● prévient l'utilisateur sur ce qu'il doit faire. Le sens précis du ● symbole est déterminé par le dessin à l'intérieur du triangle. Le symbole à gauche signifie que le fil électrique doit être débranché de la prise.

⚠ L’utilisation incorrecte peut causer des blessures

⚠ ATTENTION

Toujours débrancher le câble d’alimentation lors de la fixation ou du retrait de pièces et de pièces en option et du nettoyage ou des travaux d’entretien qui n’exigent pas un branchement de l’appareil à une source d’alimentation.
Tenter ces opérations pendant que l’appareil est branché à une source d’alimentation peut causer des blessures ou un choc électrique.

Garder les enfants loin de l'appareil.
L'appareil comporte des zones et des composants qui présentent un danger pour les enfants et qui pourraient causer des blessures,la cécité, la suffocation ou d'autres accidents graves.

Ne jamais tenter de démonter, de réparer ou de odifier l'appareil.
Le non-respect de cette consigne risque de provoquer un incendie, un choc électrique ou des blessures. Confier les réparations à un technicien ayant la formation requise.

S’assurer de suivre les procédures d’utilisation décrites dans le manuel utilisateur.
Ne jamais permettre à quiconque ne connaît pas le fonctionnement ou la manutention de l’appareil de le toucher.
L’utilisation ou la manutention incorrectes peuvent causer un accident.

Ne jamais faire fonctionner l'appareil après avoir consommé de l'alcool ou des médicaments, ou dans un état de fatigue.
L'utilisation de l'appareil exige un jugement sansfaille. L'utilisation avec les facultés affaiblies pourrait entraîner un accident.

⚠ ATTENTION

Utiliser l'appareil dans un endroit propre et bien éclairé.
Travailler dans un endroit sombre ou encombré peut causer un accident; l'utilisateur risque, par exemple, de trébucher malencontreusement et d'être coincé par une partie de l'appareil.

Ne jamais grimper ni s'appuyer sur la machine.
La machine n'est pas conçue pour supporter le poids d'une personne. Grimper ou s'appuyer sur la machine peut déplacer des éléments et causer un faux pas ou une chute, ce qui causerait des blessures.

Être attentif dans le périmètre de l’outil de coupe.
L’outil de coupe est acéré. Les outils de coupes brisés sont aussi dangereux. Faire preuve de prudence pour éviter les blessures.

Ne jamais utiliser un outil de coupe émoussé. Procéder fréquemment aux travaux d’entretien pour garder l’appareil en bon état de fonctionnement.
L’usage abusif peut causer un incendie ou des blessures.

Ne pas utiliser si un couvercle avant est fissuré ou brisé.
Vous risqueriez de vous blesser. Si le couvercle est fissuré ou brisé, communiquer avec le représentant Roland DG autorisé.

⚠ PRUDENCE

Retirer l’outil de coupe avant de procéder aux travaux de remplacement.
Un contact avec la lame peut provoquer une blessure.

⚠ Cet appareil est lourd.

⚠ PRUDENCE

Le déchargement et la mise en place doivent être faits par au moins quatre personnes.
Les tâches qui exigent un effort trop grand si elles sont exécutées par un petit nombre de personnes peuvent être cause de blessures. La chute d'articles très lourds peut aussi causer des blessures.

⚠ PRUDENCE

Installer l'appareil à un endroit de niveau, stable et pouvant prendre en charge le poids l'appareil.
Le poids total de la machine peut atteindre 70 kg (155 lb) ou plus.Installer l'appareil à un endroit inapproprié peut provoquer un accident grave comme le renversement, la chute ou l'effondrement.

⚠ Les rebuts et morceaux de la coupe sont inflammables et toxiques.

⚠ ATTENTION

Ne jamais tenter de couper du magnésium ni aucun autre matériau inflammable.
Un incendie pourrait se produire pendant la coupe.

Ne jamais essayer de couper du métal, du carbone ou tout autre métal conducteur.
Un incendie pourrait se produire pendant la coupe.

Ne pas approcher une flamme nue de l'espace de travail.
Les rognures de coupe peuvent s'enflammer.
Les matériaux pulvérisés sont extrêmement inflammables et même le métal peut s'enflammer.

⚠ ATTENTION

Ne jamais utiliser un aspirateur pour aspirer des déchets coupés.
L'utilisation d'un aspirateur normal pour aspirer des déchets finement coupés peut entraîner un risque d'incendie ou d'explosion.

Porter des lunettes de protection et un masque. Rincer toutes les rognures de coupe qui pourraient rester collées aux mains.
Ingérer ou respirer accidentellement des rognures de coupe peut être dangereux pour la santé.

⚠ Certains éléments peuvent présenter un risque de pincement, d'emmêlement, de brûlure ou d'autres dangers.

⚠ ATTENTION

Fixer solidement l'outil de coupe et la pièce à travailler. Une fois qu'ils sont fixés solidement, s'assurer qu'aucun outil ni aucun autre objet n'a été laissé en place.
Si tel était le cas, ces objets pourraient être projetés avec force hors de l'appareil et causer des blessures.

Ne pas toucher au fuseau ou près du fuseau immédiatement après une coupe.
Vous risqueriez de vous brûler.

⚠ PRUDENCE

Ne jamais utiliser l'appareil avec des cravates, des colliers ou des vêtements amples. Les cheveux longs doivent être solidement attachés Lors du fonctionnement de l'appareil en portant des gants,exercer assez de prudence pour prévenir l'emmêlement dans l'appareil.
Tous ces objets peuvent être attrapés dans l'appareil, risquant de provoquer des blessures.

⚠ Risque de décharge ou de choc électrique, d'électrocution ou d'incendie

⚠ ATTENTION

Brancher à une prise électrique conforme aux caractéristiques de cet appareil (tension, fréquence et courant).
Une tension incorrecte ou un courant insuffisant peuvent causer un incendie ou un choc électrique.

S'il se produit des étincelles, de la fumée,une odeur de brûlé, un bruit inhabituel ou un fonctionnement anormal, débrancher immédiatement le câble d'alimentation.
Ne jamais utiliser si un composant est endommagé.Continuer à utiliser l'appareil peut causer un incendie, un choc électrique ou des blessures.Communiquer avec le représentant Roland DG Corp. Autorisé.

Ne jamais utiliser à l'extérieur ni à un endroit où l'appareil risque d'être exposé à de l'eau ou à une humidité élevée. Ne pas toucher le câble d'alimentation, la fiche ou la prise électrique avec des mains mouillées.
Le non-respect de cette consigne risque de provoquer un incendie ou un choc électrique.

Ne jamais insérer d'objet étranger dans l'appareil. Ne jamais exposer l'appareil aux déversements de liquides.
L'insertion d'objets comme des pièces de monnaie ou des allumettes, ou le déversement de liquides dans les orifices de ventilation peuvent causer un incendie ou un choc électrique. Si un objet ou du liquide s'infiltre dans l'appareil, débrancher immédiatement le câble d'alimentation et communiquer avec le représentant Roland DG autorisé.

Ne jamais placer d'objet inflammable à proximité de l'appareil. Ne jamais utiliser de produit inflammable en aérosol à proximité de l'appareil. Ne jamais utiliser l'appareil dans un endroit où des gaz peuvent s'accumuler.
Une combustion ou une explosion pourraient se produire.

⚠ ATTENTION

Manipuler le câble d'alimentation, la fiche et la prise électrique correctement et avec soin.
Ne jamais utiliser un article endommagé, car cela pourrait causer un incendie ou un choc électrique.

Si une rallonge ou une bande d'alimentation électrique sont utilisées,s'assurer qu'elles correspondent aux caractéristiques de l'appareil (tension,fréquence et courant).
L'utilisation de plusieurs charges électriques sur une prise unique ou une longue rallonge peut causer un incendie.

Placer l'appareil de façon à ce que la fiche soit facile d'accès en tout temps.
Ainsi, l'appareil pourra être débranché rapidement en cas d'urgence. Installer l'appareil près d'une prise électrique. En outre, prévoir suffisamment d'espace pour que la prise électrique soit facile d'accès.

Utiliser uniquement des accessoires d'origine (accessoires en option, articles consommables, câble d'alimentation et autres articles semblables), compatibles avec l'appareil.
Les articles incompatibles risquent de causer des accidents.

Ne jamais utiliser l'appareil à des fins autres que celles pour lesquelles il est conçu. Ne jamais l'utiliser de manière abusive ou d'une manière qui dépasse sa capacité.
Le non-respect de cette consigne peut causer des blessures ou un incendie.

Ne pas utiliser le cordon électrique fourni avec d'autres produits.

Si l'appareil doit rester inutilisé pendant une longue période, débrancher le câble d'alimentation.
Cela peut prévenir les accidents en cas de fuite de courant ou de démarrage accidentel.

⚠ Risque de décharge ou de choc électrique, d'électrocution ou d'incendie

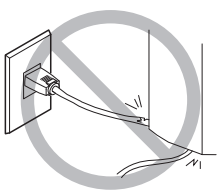
Mise à la terre.
La mise à la terre peut prévenir un incendie ou un choc électrique dus à une fuite de courant en cas de défaillance..

Ne jamais utiliser d'huile de coupe.
Cet appareil n'est pas conçu pour traiter l'huile de coupe. L'huile peut s'infiltrer à l'intérieur et causer un incendie ou un choc électrique.

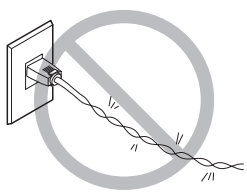
Ne jamais utiliser d'air sous pression.
Cet appareil n'est pas conçu pour être nettoyé à l'aide d'un appareil soufflant. Des rognures de coupe peuvent s'infiltrer à l'intérieur et causer un incendie ou un choc électrique.

Ne jamais utiliser un solvant comme de l'essence, de l'alcool ou de diluant pour nettoyer.
Le non-respect de cette consigne peut entraîner un incendie.

⚠ Remarques importantes à propos du câble d'alimentation, de la fiche et de la prise électrique

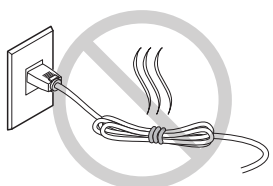


Ne jamais déposer aucun objet dessus au risque de les endommager.



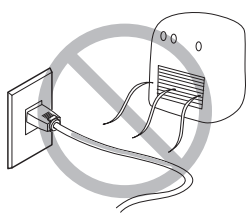
Ne jamais plier ni enrouler.

Ne jamais tirer avec une force excessive.

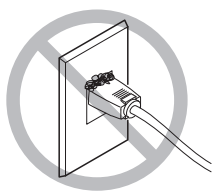


Ne jamais plier ni tordre avec une force excessive.

Ne jamais laisser mouiller.



Ne jamais chauffer.



La poussière peut causer un incendie.

⚠ Composants risquant d'être éjectés ou endommagés

⚠ ATTENTION

S'assurer que l'air comprimé n'est pas contaminé par de l'eau, de l'huile,des produits chimiques ou des objets étrangers.
Les composants pourraient se détériorer ou se rompre et les contaminants seraient projetés, ce qui créerait un danger.

⚠ ATTENTION

Ne jamais utiliser dans un endroit exposé à de l'huile de coupe, à des solvants,à des produits chimiques ou à d'autres substances similaires.
Les composants pourraient se détériorer ou se rompre sous la pression de l'air comprimé.

Ne jamais utiliser dans un endroit exposé directement aux rayons du soleil.
Les composants pourraient se détériorer ou se rompre sous la pression de l'air comprimé.

⚠ Composants risquant d'être éjectés ou endommagés

⚠ ATTENTION

Garder la température de l'endroit où l'appareil est installé dans les limites spécifiées. Ne jamais placer un four ou un appareil de chauffage à proximité.
Les composants pourraient se détériorer ou se rompre sous la pression de l'air comprimé.

Connecter solidement le tuyau à air pour éviter qu'il se détache.
Un tuyau sous pression qui se détache peut fouetter l'air de manière désordonnée et créer une situation dangereuse.Le fixer solidement.

Avant de fixer ou de retirer le tuyau à air ou des accessoires en option ou avant de procéder au nettoyage ou à un entretien qui n'exige pas un branchement de l'appareil à une source d'alimentation,couper l'arrivée d'air comprimé et laisser la pression s'échapper.
Si l'équipement est laissé sous pression, il y a risque que des éléments soient projetés.

Utiliser un tuyau à air du diamètre spécifié et ayant une résistance appropriée à la pression.
Sinon, le tuyau risque de se détacher ou de se rompre.

Garder l'alimentation en air comprimé à la pression spécifiée.
Appliquer une pression supérieure à la pression spécifiée risque de faire rompre le tuyau ou de causer un accident grave.

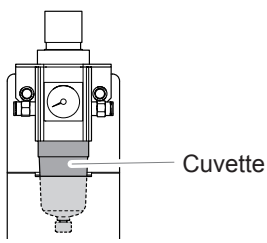
⚠ ATTENTION

Ne jamais frapper ni soumettre l'objet à un impact.
Les composants pourraient être endommagés ou se rompre sous la pression de l'air comprimé.

Si l'appareil doit rester inutilisé pendant une longue période, couper l'alimentation en air comprimé et purger la pression.
Cette précaution peut prévenir un accident.

Ne jamais endommager le tuyau à air,le plier ou le tordre avec une force excessive. Ne jamais utiliser un article détérioré.
Un tuyau à air endommagé risque de se rompre.

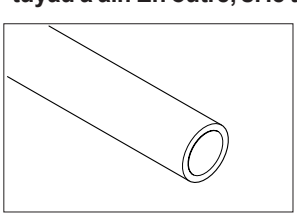
Avant de retirer ou de fixer le régulateur ou de procéder à un entretien, s'assurez que la cuvette est solidement fixée.
Le cas contraire, elle pourrait être projetée dès l'utilisation de l'air comprimé.



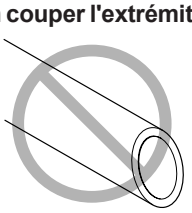
Nettoyer la cuvette du régulateur avec un détergent neutre. Ne jamais utiliser de solvants comme de l'essence, de l'alcool ou de diluant.
Ils risquent de dégrader la cuvette et peuvent entraîner un éclatement.

⚠ Remarques importantes relativement à l'extrémité (bord coupé) du tuyau à air.

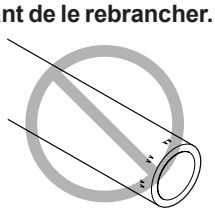
Le non-respect de ces consignes de sécurité peut causer une fuite d'air ou le débranchement du tuyau à air. En outre, si le tuyau à air a été débranché, en couper l'extrémité avant de le rebrancher.



S'assurer qu'il n'est pas écrasé



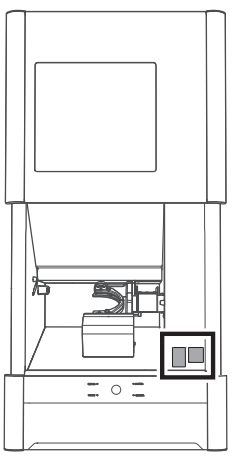
Le bord coupé doit être droit



Le garder en bon état et propre

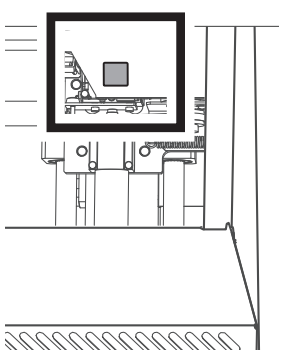
⚠ Vignettes d'avertissement

Des vignettes d'avertissement sont apposées pour qu'il soit facile de repérer immédiatement les zones dangereuses. La signification des vignettes est donnée ci-dessous. Respecter les avertissements. Ne jamais retirer les vignettes et ne pas les laisser s'encrasser.

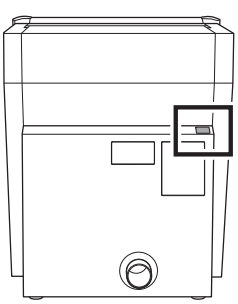


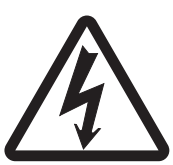
Attention : outil coupant
L'outil de coupe est acéré.
L'utilisation incorrecte peut causer des blessures

Ne jamais utiliser d'air sous pression.
Cet appareil n'est pas conçu pour être nettoyé à l'aide d'un appareil soufflant. Des rognures de coupe peuvent s'infiltrer à l'intérieur de l'appareil et causer un incendie ou un choc électrique.



Attention : Température élevée
Ne pas toucher au fuseau ou près du fuseau.
Vous risqueriez de vous brûler.





Attention : voltage élevé
Il peut être dangereux de retirer le couvercle puisqu'il y aurait des risques de chocs électriques à cause du voltage élevé.

Important Notes on Handling and Use

This machine is a precision device. To ensure the full performance of this machine, be sure to observe the following important points. Failure to observe these points may not only result in loss of performance but may also cause malfunction or breakdown.

This machine is a precision device.

- Handle carefully, and never subject the machine to impacts or excessive force.
- Carefully clean away milling waste.
- Use within the range of specifications.
- Never attempt to move the spindle unit or rotary axis unit by hand with undue force.
- Never needlessly touch anywhere inside the machine except for locations specified in this manual.

Install in a suitable location.

- Install in a location that meets the specified conditions for temperature, relative humidity, and the like.
- Install in a quiet, stable location offering good operating conditions.
- Never install outside.
- Never install in an environment where silicone substances (oil, grease, spray, etc.) are present. Doing so may cause poor switch contact or ionizer damage.

This machine becomes hot.

- Never cover the ventilation holes with cloth or anything else.
- Install in a well-ventilated location.

This machine is a dedicated cutting machine for Zirconia, Wax, PMMA, PEEK, and Composite resin.

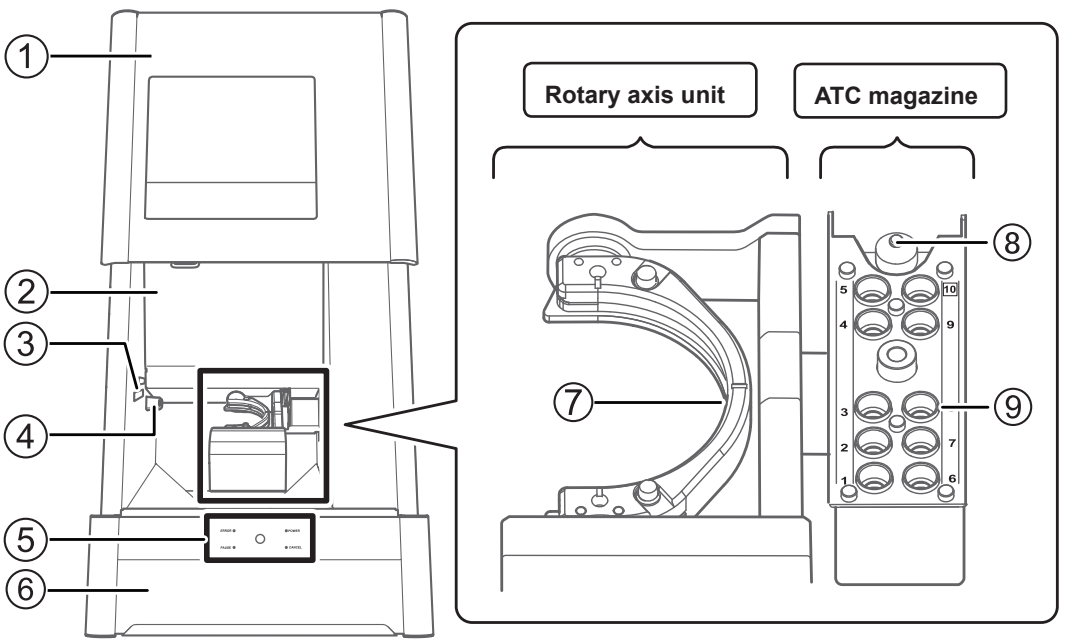
- Never cut any material other than Zirconia, Wax, PMMA, PEEK, and Composite resin.

About the milling bur

- The tip of the milling bur is breakable. Handle with care, being careful not to drop the bur.

Part Names and Functions

Front and Interior

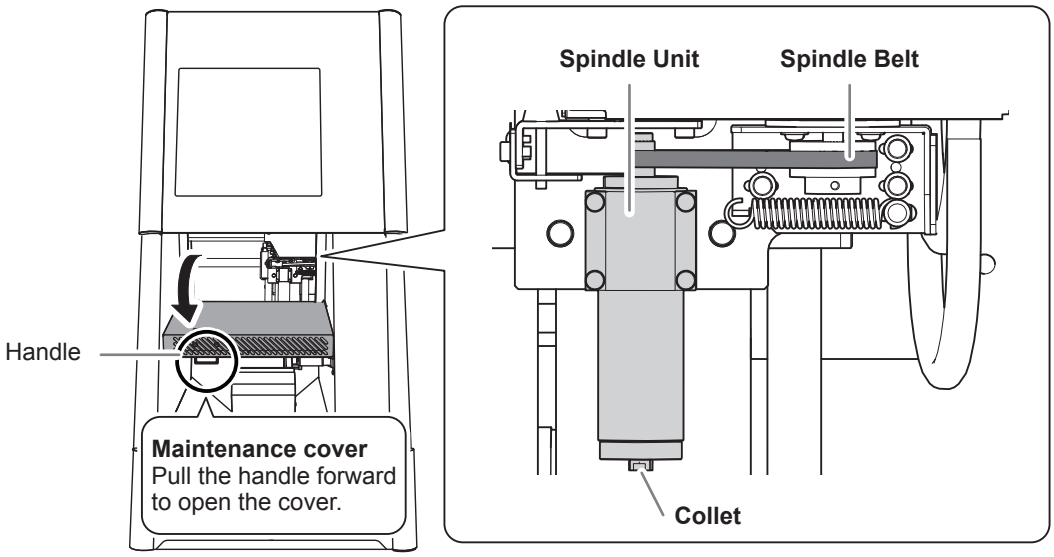


No.	Name	No.	Name	No.	Name
①	**Front cover *1**	④	**Ionizer *2**	⑦	**Clamp**
②	**Maintenance cover**	⑤	**Built-in panel**	⑧	**Milling bur sensor**
③	**Status light**	⑥	**Bottom cover**	⑨	**Stocker**

*1 To ensure safety, opening the cover during spindle rotation causes an emergency stop.
*2 The ionizer works to eliminate static electricity from cutting waste when cutting PMMA.

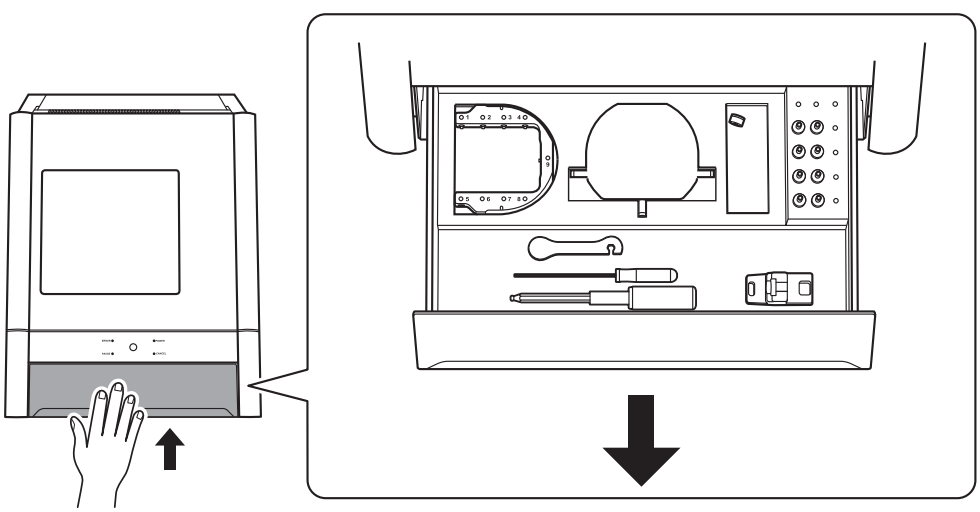
Inside the maintenance cover

Open the cover to replace the spindle or perform other work.

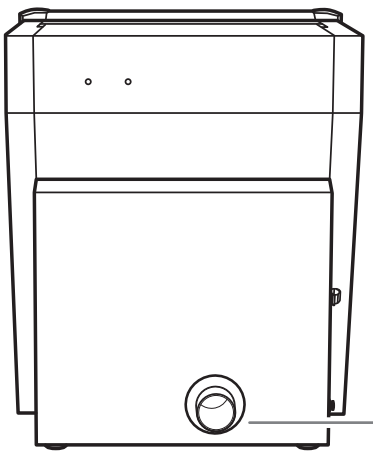


Inside the bottom cover (Storage)

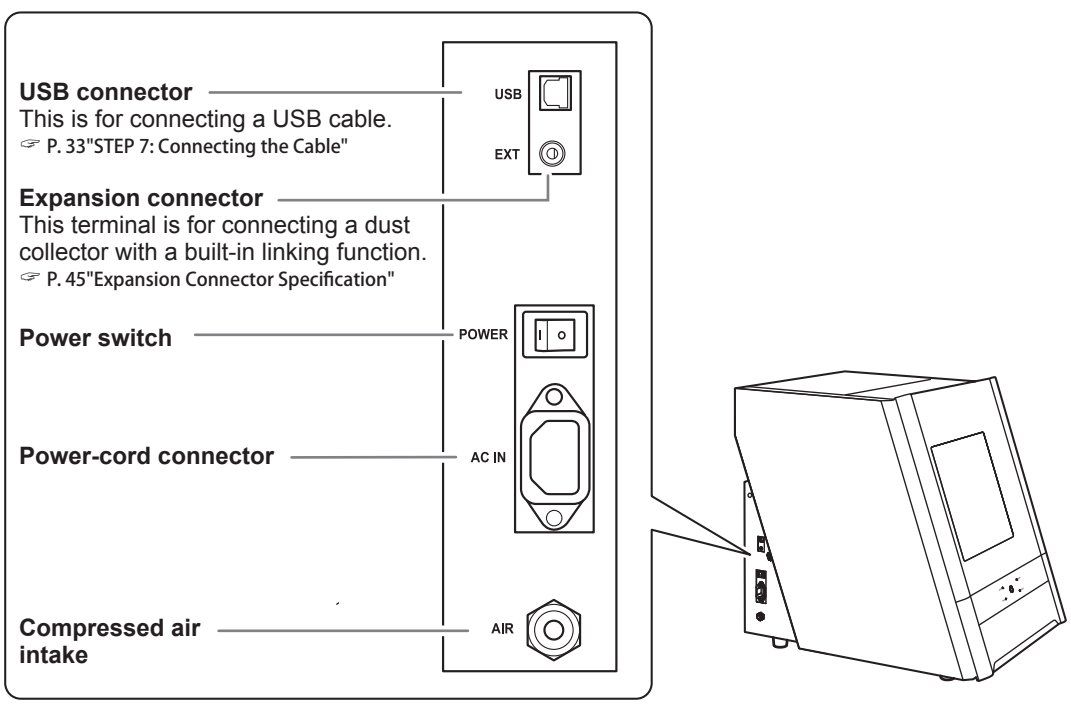
Included items and milling burs can be stored here. Push lightly on the area shown in the figure to open.



Back

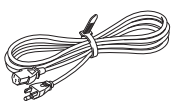

Dust collection hose attachment port

Side

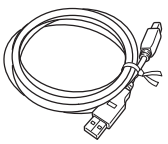

USB connector
This is for connecting a USB cable.
☞ P. 33"STEP 7: Connecting the Cable"
Expansion connector
This terminal is for connecting a dust collector with a built-in linking function.
☞ P. 45"Expansion Connector Specification"
Power switch
Power-cord connector
Compressed air intake
USB
EXT
POWER
AC IN
AIR

STEP 1: Checking the Included Items

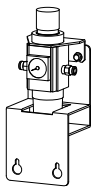
The following items are included with the machine. Make sure they are all present and accounted for.



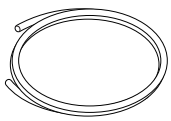
Power cord (1)



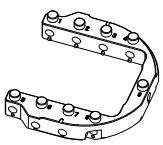
USB cable (1)



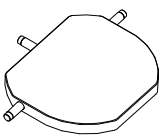
Regulator (1)



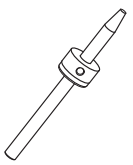
Air hose (1)



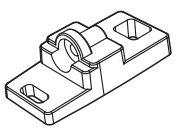
Pin-type material adapter(1)



Automatic correction jig (1)



Detection pin (1)



Milling bur positioner (1)

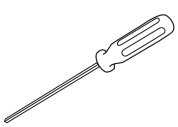
Milling bur holders (10)

Mounting screws (20)

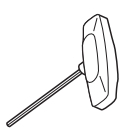
Screws (spares for clamp) (2)

Screws (spares for pin-type material adapter) (9)

Screws(for regulator and dust collection hose adapter) (4)



Hexagonal screwdriver (1)

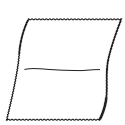


T-shaped hexagonal screwdriver (1)

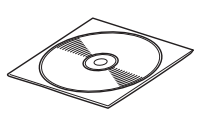
Dust collection hoses (long, short)(2)

Dust collection hose adapter (1)

Spanner (1)

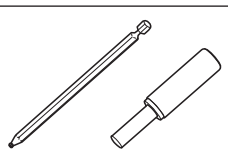


Cloth for care (1)



Roland Software Package CD (1)

Torque screwdriver (1)

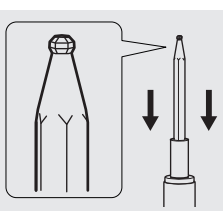


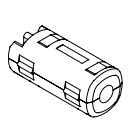
Assembly Instructions

① Check the attachment orientation.

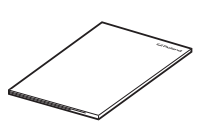
② Insert firmly in the direction of the arrows until it clicks into place.

③ Lightly tug on the driver bit to make sure it does not come loose.





Ferrite Core (1)



Setup Guide (This manual) (1)

STEP 2: Preparing Separate Items

Dust Collector

IMPORTANT!

This machine requires a dust collector for sucking up cutting waste generated from milling. Milling cannot be performed without a dust collector.

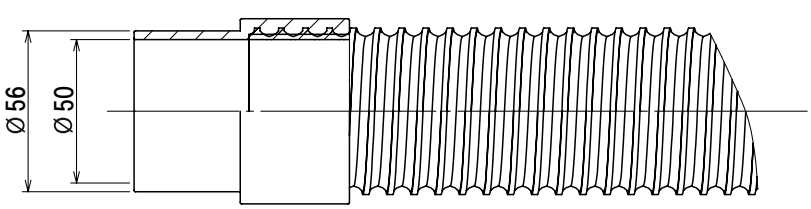
⚠WARNING **Be sure to turn on the dust collector.**
Milling waste and workpieces are flammable and toxic.

⚠WARNING **Never use a vacuum cleaner to clean up cutting waste.**
Picking up fine cuttings using an ordinary vacuum cleaner may result in a fire or explosion.

The dust collector must meet the following conditions.

- **Static pressure: 4 kPa or more**
- **Air flow: 2 m^3/min or more**
- **Dust collector hose: Use the included hose.**

Unit: mm



Compressor (Source of Compressed Air)

This machine requires compressed air. You will need to prepare a compressor separately.

⚠WARNING **The pressure of the compressed air must be 1.0 MPa or less.**
Anything higher may result in a serious accident such as a rupture.

⚠WARNING **Ensure that the supplied compressed air is not contaminated by water, oil, chemicals, or foreign objects.**
The components may deteriorate or rupture, or the contaminants may be scattered, posing a hazard.

⚠WARNING **Do not supply the compressed air until the air hose is connected securely.**
Failure to do so may cause an accident.

The compressor must meet the following conditions.

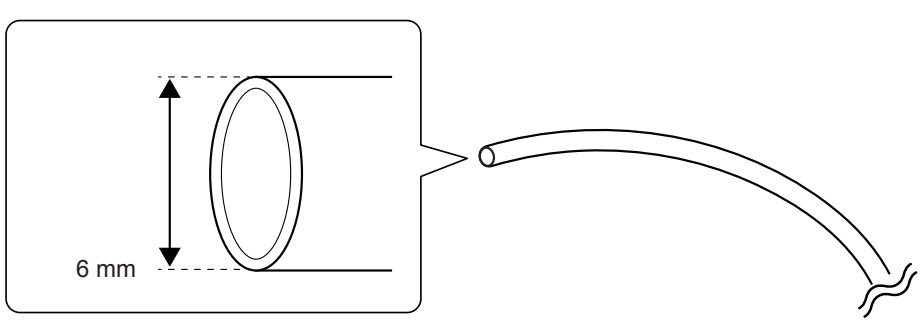
- **Control pressure: Between 0.3 and 1.0 MPa**
- **Air capacity: 30 L/min or more (for one machine)**
- **Oil-free type (To prevent contamination of the compressed air by foreign material.)**
- **Dryer-equipped (To prevent moist air that can cause rust.)**

Air Hose

The air hose (1) connects the compressor to the regulator.

The air hose must meet the following conditions.

- **Hose outer diameter: 6 mm (polyurethane resin tube)**



Note

Be sure to use the included regulator to supply compressed air.
For the information on the compressed air pressure for each workpiece, see the "User's Manual (electronic-format manual)" ("Preparing Compressed Air (Setting the Regulator)" in "Preparing for Milling").

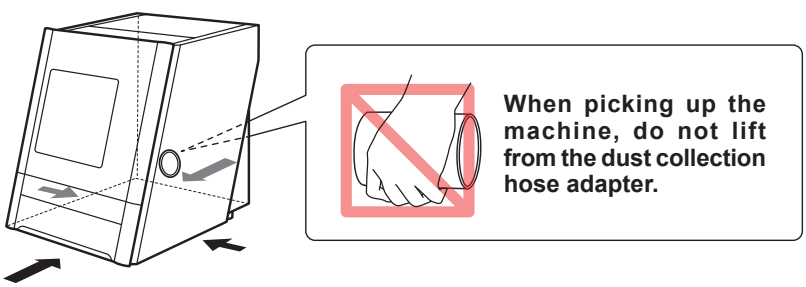
STEP 3: Deciding on an Installation Site

Placement and Installation

The weight of the machine alone is 67 kg (148 lbs.) Perform unloading and emplacement with care.

⚠ WARNING **Unloading and placement are operations that must be performed by 4 persons or more.**
Tasks that require undue effort when performed by a small number of persons may result in physical injury. Also, if dropped, such items may cause injury.

⚠CAUTION **When lifting the machine, hold the locations shown in the figure.**



Installation Environment

⚠ WARNING **Install the machine in a location that is level, stable, and able to bear the weight of the machine after checking the weight of the machine in the operation manual on the installation of the machine.**
The total weight of the machine may reach 70 kg (155 lb.) or more.
Installation in an unsuitable location may cause a major accident, including tip over, fall, or collapse.

⚠WARNING **Never install in a location exposed to open flame.**
Milling waste may ignite. Powdered material is extremely flammable, and even metal material may catch fire.

⚠WARNING **Never install close to any flammable object or in a gas-filled location.**
Combustion or explosion may occur.

⚠WARNING **Never install out of doors or in any location where exposure to water or high humidity may occur.**
Doing so may result in fire or electrical shock.

⚠WARNING **Position so that the power plug is within immediate reach at all times.**
This is to enable quick disconnection of the power plug in the event of an emergency. Install the machine next to an electrical outlet. Also, provide enough empty space to allow immediate access to the electrical outlet.

- Never install in a location subject to wide fluctuations in temperature or humidity.
- Never install in a location subject to shaking or vibration.
- Never install in a dusty or dirty location.
- Never install in a location exposed to direct sunlight or near air-conditioning or heating equipment.
- Never install in a location exposed to considerable electrical or magnetic noise, or other forms of electromagnetic energy.
- Never install in an environment where silicone substances (oil, grease, spray, etc.) are present. Doing so may cause poor switch contact or ionizer damage.

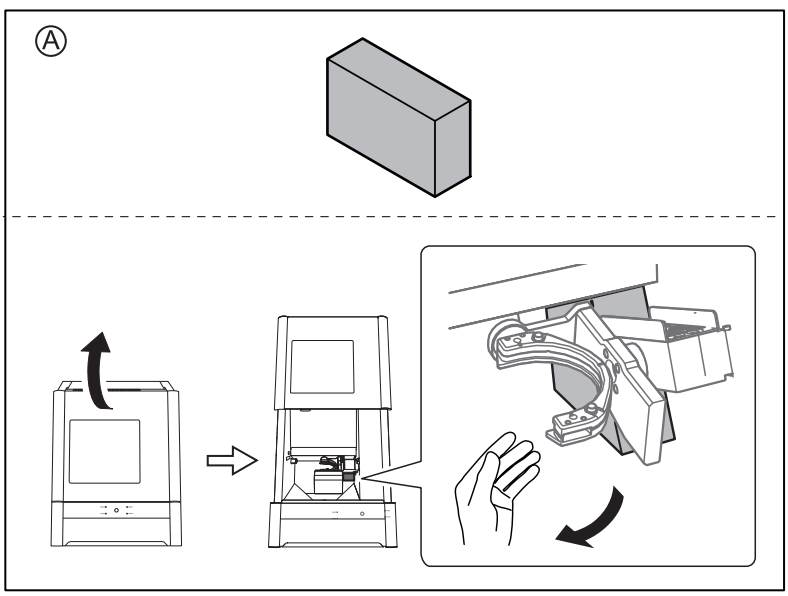
STEP 4: Removing the Retainers

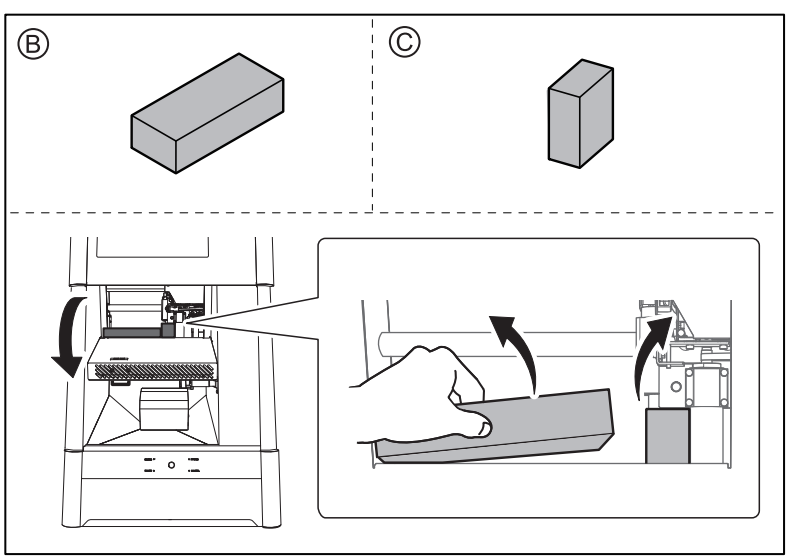
Retaining materials are attached to protect the machine from vibration during shipment. When installation is completed, remove and store these .

- Remove all retaining materials. Any that remain may cause faulty operation or breakdown when the power is switched on.
- The retaining materials are required when moving the machine to a different location. Store them carefully so that they do not get misplaced.

Removing the retainers

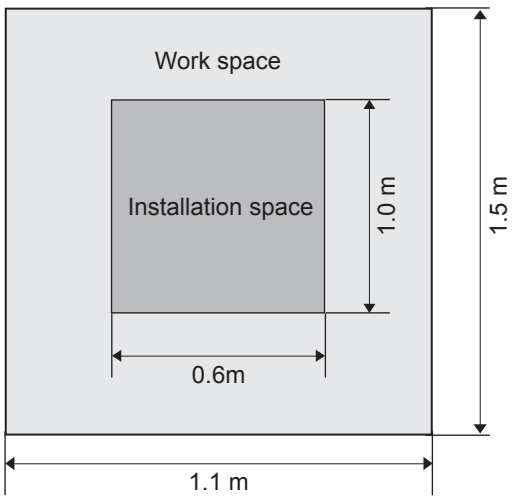
Make sure the power cord is unplugged, and remove the retainer A, B, and C.



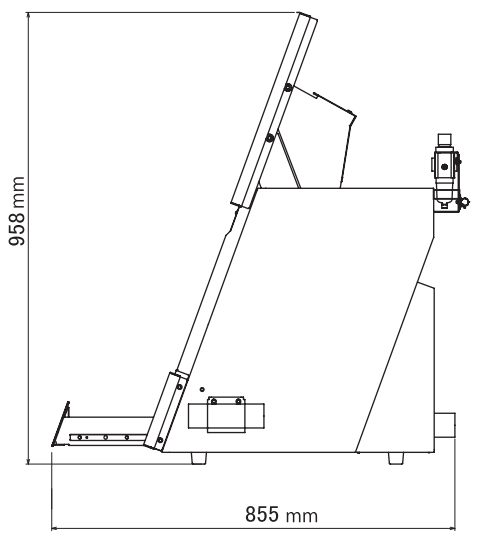


Installation Space

Ensure that at least the following amount of space is available.



Ensure that a height is available to enable the opening of the front cover.
Ensure that space is available in front of and behind the machine to enable the opening of the bottom cover.



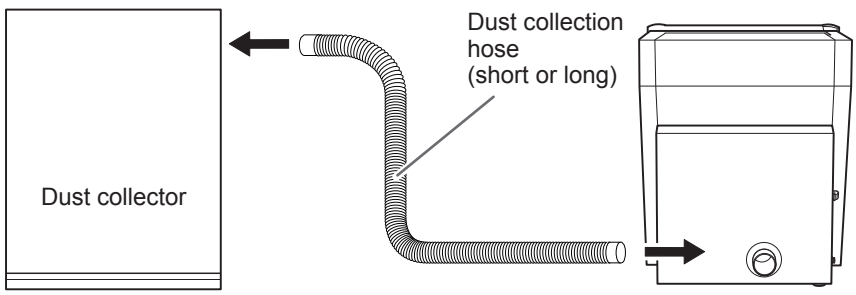
Installation Location Height

The installation location should be above the work floor by 0.6 m (23.7 in.) or more.
This machine is a desktop-type unit. Install in a location where the power button and other controls are easily accessible.

STEP 5: Attaching the Dust Collector Hose

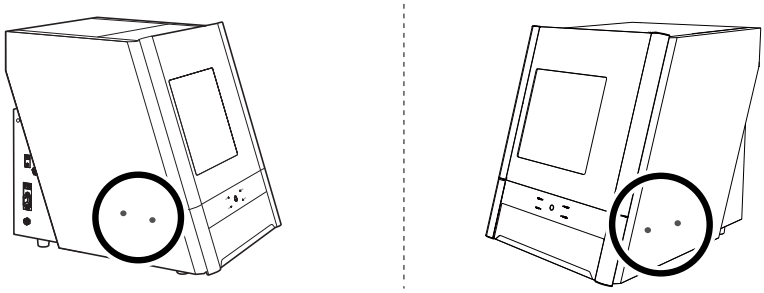
Connecting the Dust Collector Directly to the Machine

Attach the dust collector hose as in the figure.



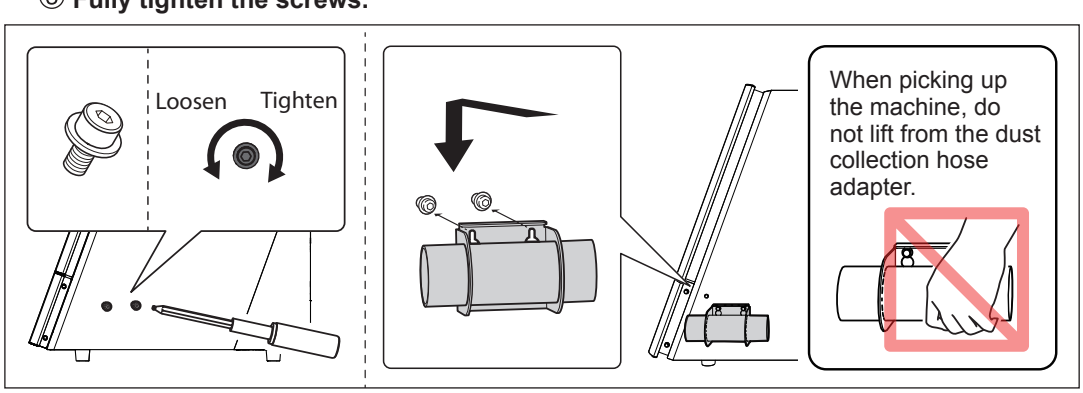
Using the Dust Collection Hose Adapter

Locations where the dust collection hose adapter can be attached.

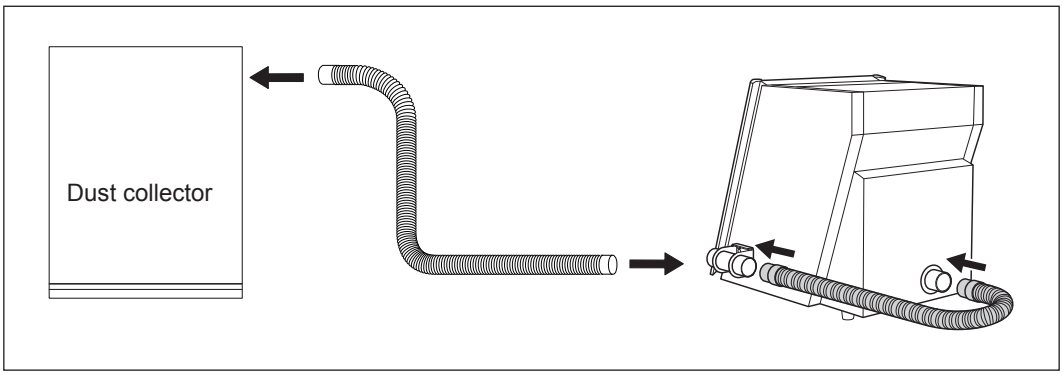


Procedure

❶ **① Loosely tighten the screws on the right and left sides (for the regulator and the dust collection hose adapter). (2 locations)**
Rotate the torque driver 3 times.
② Align the holes of the dust collection hose adapter to the screws in ① .
③ Fully tighten the screws.



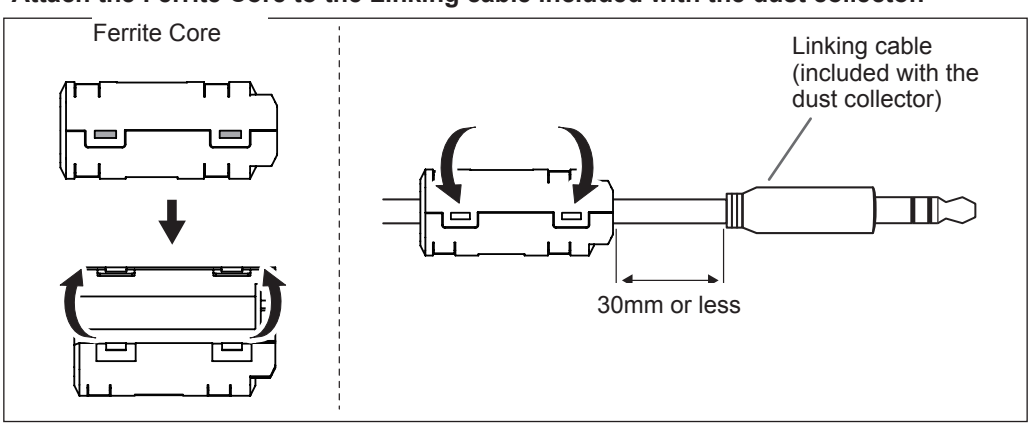
2 **Attach the dust collector hose as in the figure.**



Dust Collector with Built-in Linking Function

Procedure

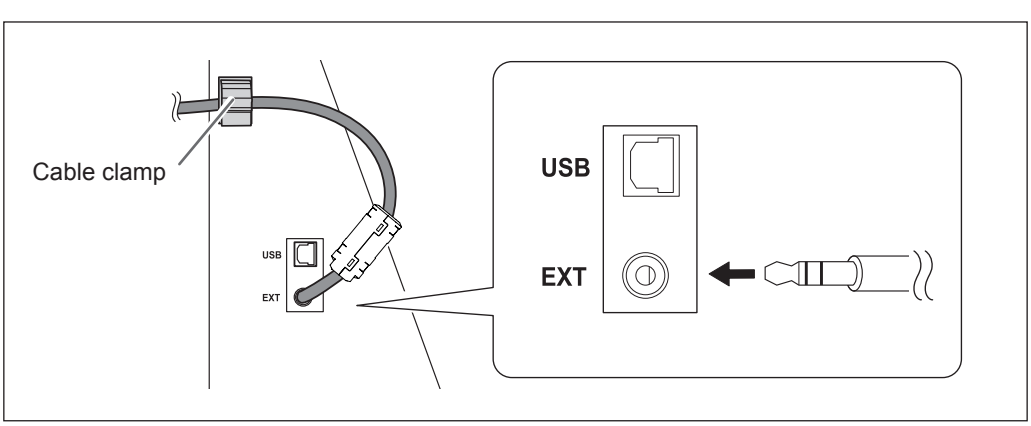
1 **Attach the Ferrite Core to the Linking cable included with the dust collector.**



2 **Insert the Linking cable to the expansion connector.**

Secure the cable with a cable clamp.

☞ P. 45"Expansion Connector Specification"

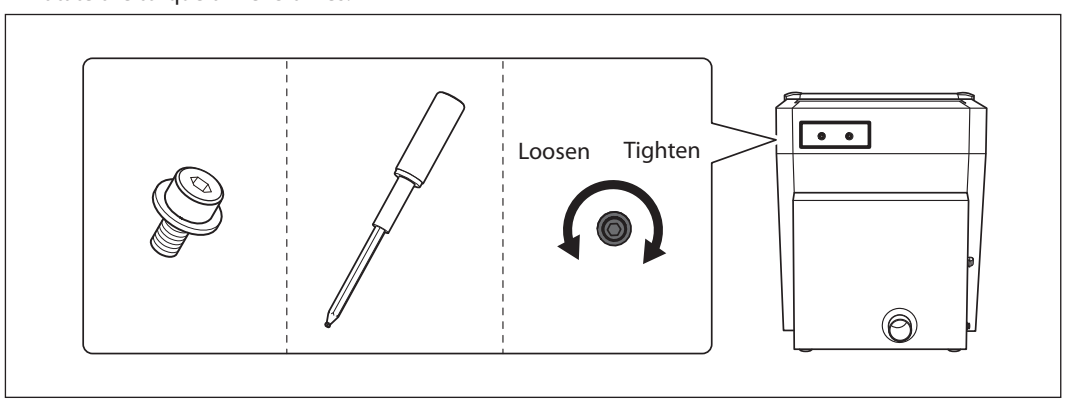


STEP 6: Attaching the Regulator

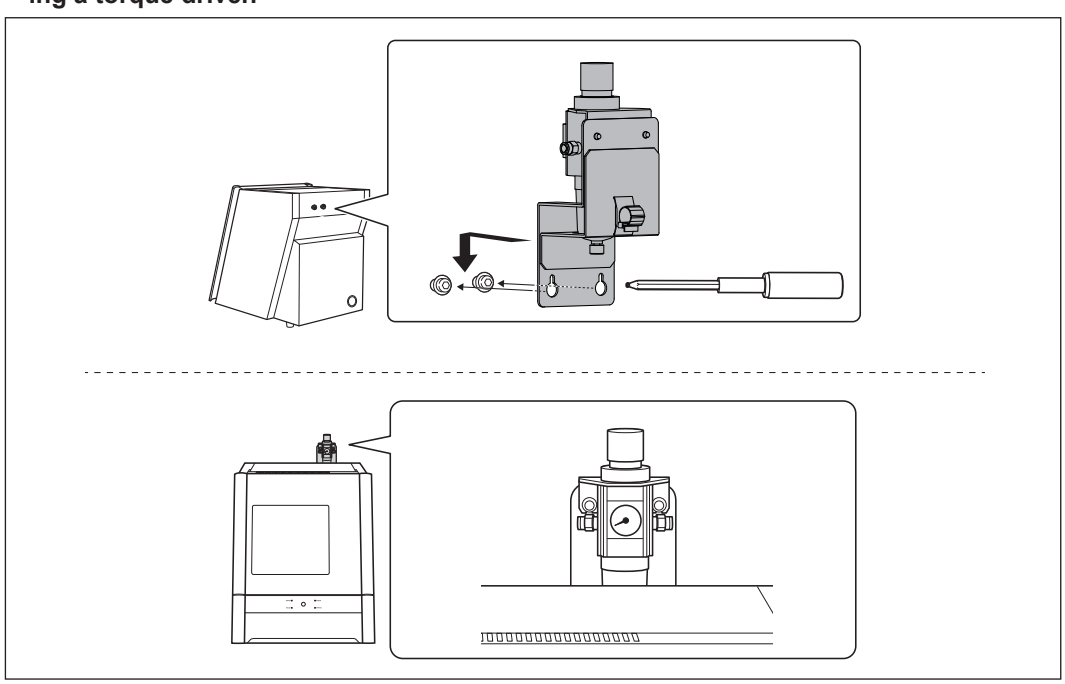
⚠WARNING **Do not supply the compressed air until the air hose is connected securely.**
Failure to do so may cause an accident.

Procedure

❶ **Loosely tighten the screws on the back of the machine (for the regulator and the dust collection hose adapter). (2 locations)**
Rotate the torque driver 3 times.

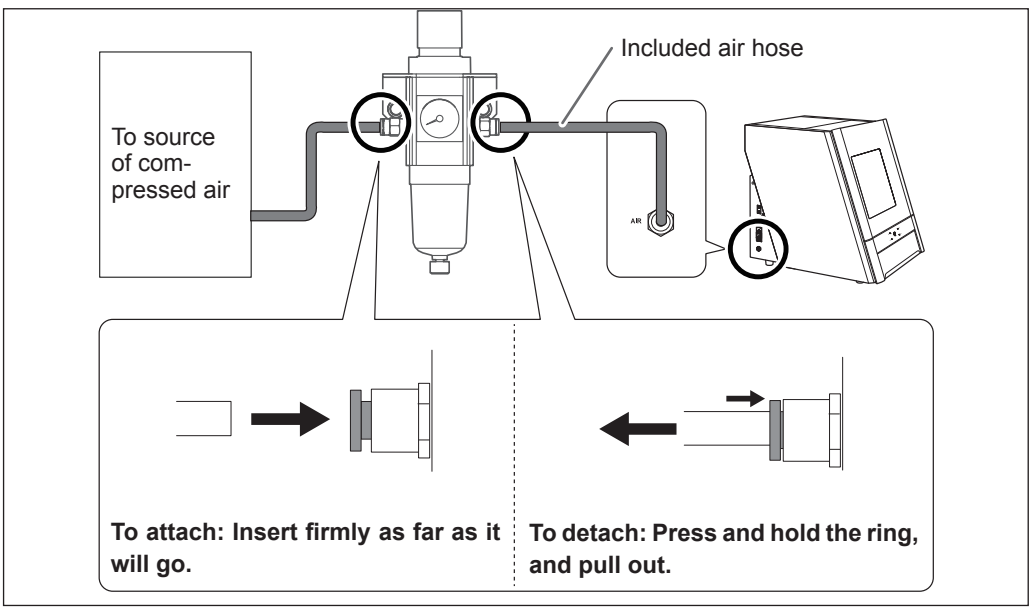


❷ **Align the holes of the regulator to the screws in ❶, and firmly tighten the screws using a torque driver.**



❸ **Attach the air hose to the regulator.**

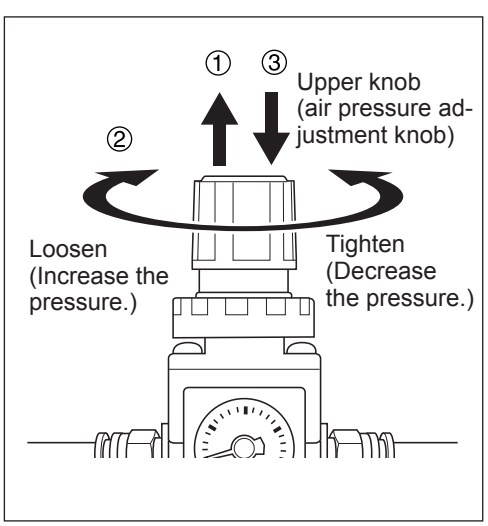
> **⚠WARNING** **Securely insert the air hose as far as it will go. Lightly tug the hose to make sure it does not come loose.**
> If it is not inserted securely, it may come loose.


Included air hose
To source of compressed air
AIR
To attach: Insert firmly as far as it will go.
To detach: Press and hold the ring, and pull out.

❹ **Supply compressed air and verify that air does not leak from the connections or any other location.**

❺

> **⚠WARNING** **Turn the air pressure adjustment knob slowly and carefully.**
> Otherwise, the machine may move suddenly, posing a risk of injury.



Adjust the air pressure.
① Pull up on the upper knob.
② Slowly turn the upper knob to adjust the air pressure.
For the recommended set pressure for each workpiece, see "Preparing Compressed Air (Setting the Regulator)" in "Preparing for Milling" in the "User's Manual (electronic-format manual)."
③ Push down on the upper knob.

> **IMPORTANT!**
> Be sure to configure the regulator to 0.2 MPa or lower. Anything higher may result in a malfunction.

STEP 7: Connecting the Cable

Connecting the Power Cord

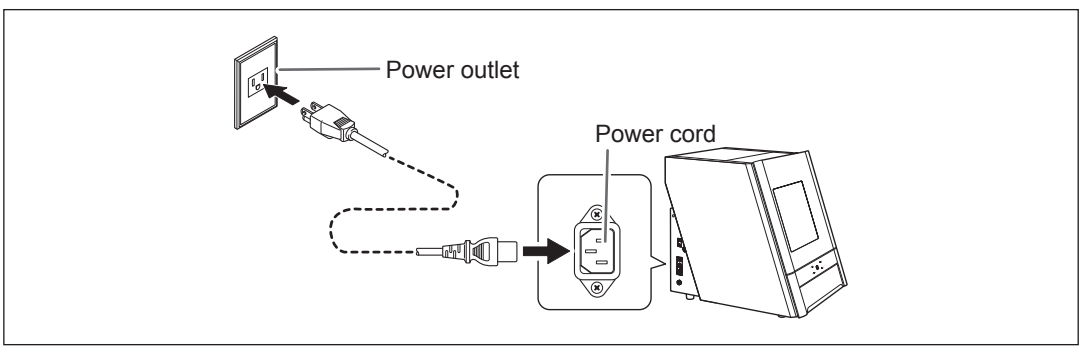
⚠ WARNING **Connect to an electrical outlet that complies with this machine's ratings (for voltage, frequency, and current).**
Incorrect voltage or insufficient current may cause fire or electrical shock.

⚠WARNING **Handle the power cord, plug, and electrical outlet correctly and with care. Never use any damaged article.**
Using a damaged article may result in fire or electrical shock.

⚠WARNING **When using an extension cord or power strip, use one that adequately satisfies the machine's ratings (for voltage, frequency, and current).**
Use of multiple electrical loads on a single electrical outlet or use of a lengthy extension cord may cause fire.

⚠WARNING **Connect to ground.**
This can prevent fire or electrical shock due to current leakage in the event of a malfunction.

⚠WARNING **Connect to an electrical outlet. Never connect directly to a power distribution panel or other such fixed wiring equipment.**
Doing so increases the risk of fire or electrical shock.



The Machine must be Connected to the Computer after the Windows Driver has been Installed

IMPORTANT!

At this time, the connection to the computer must not be made yet. Be sure to connect according to the instructions on P. 35"Installation Procedure". If the machine is connected before the driver has been installed, driver installation may fail, and it may not be possible to use the machine.

IMPORTANT!

The machine ID needs to be changed when connecting more than one machine.

If you connect more than one unit of this machine to a single computer, be sure to follow the procedure given on P. 42"Connecting Multiple Units". Connecting before changing the ID may render the machine unusable.

STEP 8: Installing the Software

System Requirements

Operating system (OS)	Windows Vista/7/8/8.1 (32-bit and 64-bit versions)
CPU	Minimum required CPU for the operating system
Memory	Minimum amount of required RAM for the operating system
Optical drive	CD-ROM drive
Video card and monitor	At least 256 colors with a resolution of 1024 × 768 or more recommended)

➢This software is a 32-bit application and therefore runs in WOW64 (Windows-On-Windows 64) when running on 64-bit versions of Windows operating systems.

For the latest information, see the Roland DG Corp. website (http://www.rolandeasyshape.com).

Installable Software

VPanel for DWX-51D	This is the dedicated software for controlling this machine. This software is used to operate the modeling machine and configure various settings.
Windows Driver (DWX-51D driver)	This is a Windows-based driver required for sending data from a computer to the machine.
User's Manual (electronic-format manual)	This manual explains how to operate the software, how to perform milling using this machine, and how to perform maintenance.

Installation Procedure

You can install the driver, software, and electronic-format manual all at once. You can also install them separately.

➢ "User's Manual" (electronic-format manual) "Installing Driver Separately"

IMPORTANT!

Be sure to connect the machine to the computer as instructed in the procedure. Failure to follow the correct procedure may make installation impossible.

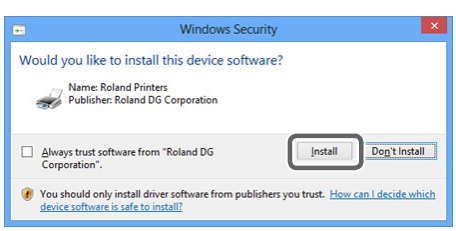
Procedure

1. **Before installation, confirm that the machine and the computer are not connected with the USB cable.**
2. **Log on to Windows as an "Administrator".**
3. **Insert the Roland Software Package CD into the CD-ROM drive of the computer.**
   When the automatic playback window appears, click [Run menu.exe]. If a [User Account Control] window appears, click [Allow] or [Yes], and continue with the installation. The setup menu screen appears automatically.
4.

   Click [Install] for the "DWX-51D Software."
   Install the DWX-51D driver and the various software all at once. Follow the on-screen instructions to proceed with the installation.
   ☞ P. 34"STEP 8: Installing the Software"

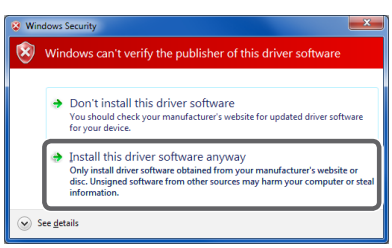
If the following screen appears during installation

Windows 8/8.1


Windows Security
Would you like to install this device software?
Name: Roland Printers
Publisher: Roland DG Corporation
Always trust software from "Roland DG Corporation".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

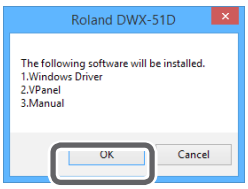
Click [Install].

Windows Vista/7


Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
See details

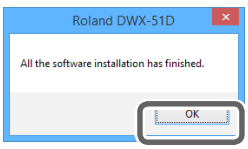
Click [Install this driver software anyway].

❺



Click [OK].
Proceed with the installation by following the displayed information.

❻

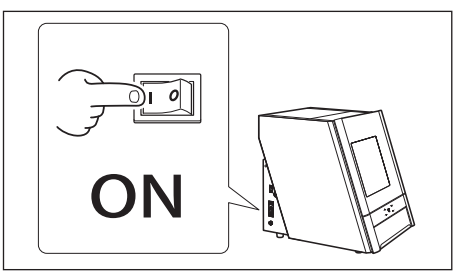


Click [OK].

❼ **Click × on the setup menu.**

❽ **Remove the Roland Software Package CD from the computer.**

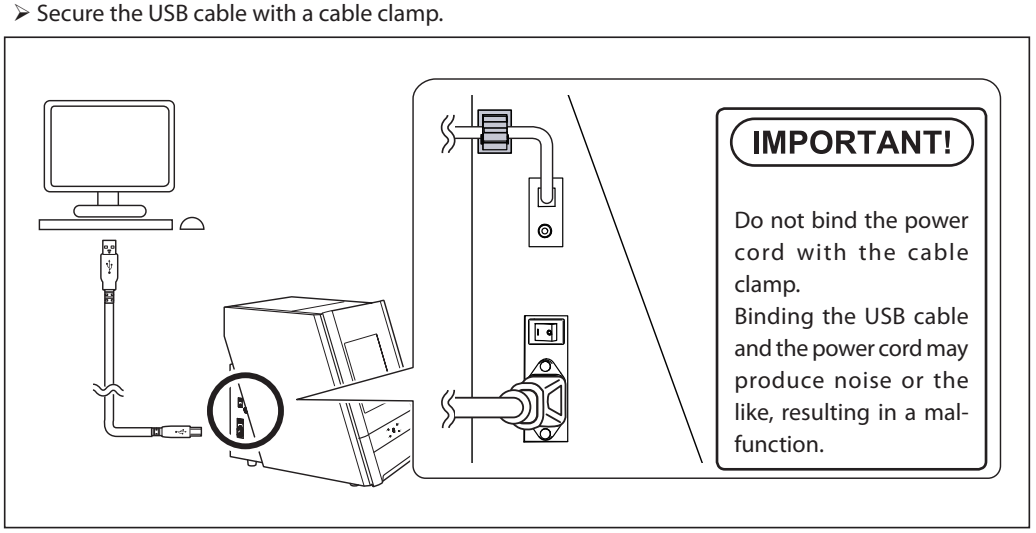
❾



Switch on the machine's power switch.
Initialization starts.

❿ **Connect the machine to the computer using the USB cable.**

- If connecting more than one unit of this machine to a single computer, refer to P. 42"Connecting Multiple Units".
- For the USB cable, use the included cable.
- Do not use a USB hub. Connection may not be possible.
- Secure the USB cable with a cable clamp.


IMPORTANT!
Do not bind the power cord with the cable clamp.
Binding the USB cable and the power cord may produce noise or the like, resulting in a malfunction.

The driver will be installed automatically.

How to View the Electronic-Format Manual

Windows 8.1

On the [Start] screen, click . On the [Apps] screen, click [User's Manual] icon under [Roland DWX-51D].

Windows 8

① Right-click the background in the [Start] screen to display the app bar, and click [All Apps].
② Click [User's Manual] under [Roland DWX-51D].

Windows Vista/7

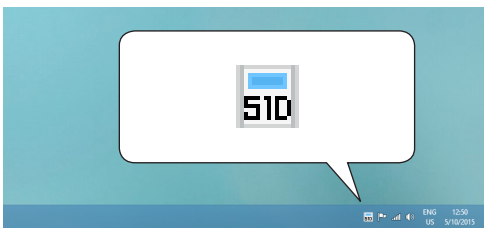
From the [Start] menu, click [All Programs] (or [Program]), then [Roland DWX-51D]. Then click [User's Manual].

STEP 9: Running In the Spindle

Procedure

❶ **Close the front cover and turn on the power.**

❷



Show VPanel.
Click (VPanel icon) in the task tray. The top window of VPanel will appear. If you cannot find in the task tray, start the program from the Windows [Start] screen (or the [Start] menu).

"How to start VPanel from the Windows [Start] screen (or [Start] menu) of Windows"

Windows 8.1

On the [Start] screen, click . In the [Apps] screen, click the [VPanel for DWX-51D] icon under [Roland DWX-51D].

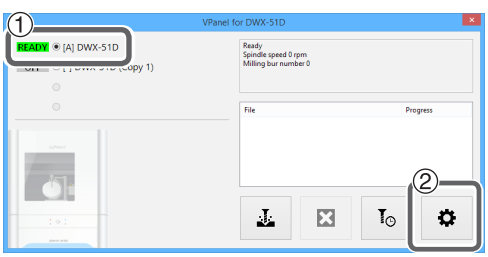
Windows 8

Right-click the background in the [Start] screen to display the app bar, and click [All Apps]. Click the [VPanel for DWX-51D] icon under [Roland DWX-51D].

Windows Vista/7

From the [Start] menu, click [All Programs] (or [Program]), then [Roland DWX-51D]. Then click [VPanel for DWX-51D].

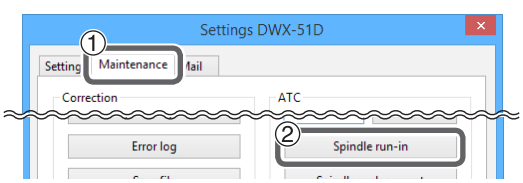
❸



① In the top window of VPanel, select the machine for operation.
Click the radio button to the left of the name of the machine to operate.

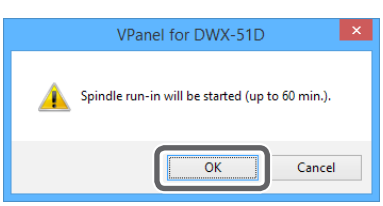
② Click .
The [Settings] screen will appear.

❹



① Click the [Maintenance] tab.
② Click [Spindle run-in].

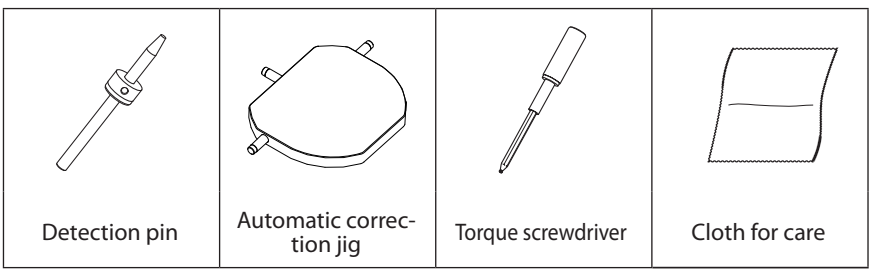
❺



Click [OK].
Run-in will begin.
This step is complete once "The operation was completed." appears.
Continue on to P. 39"STEP 10: Correcting the Milling Machine"

STEP 10: Correcting the Milling Machine

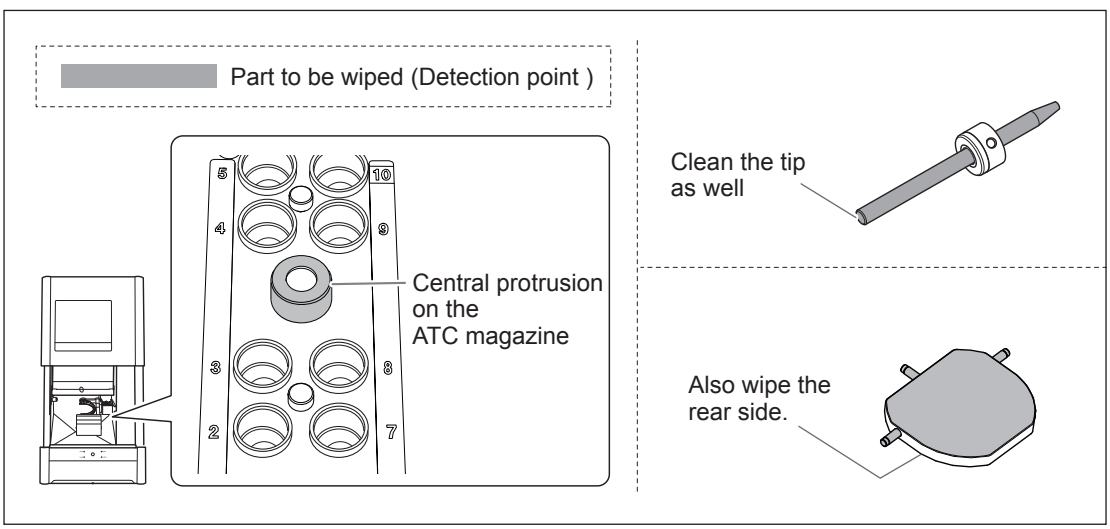
Required Items



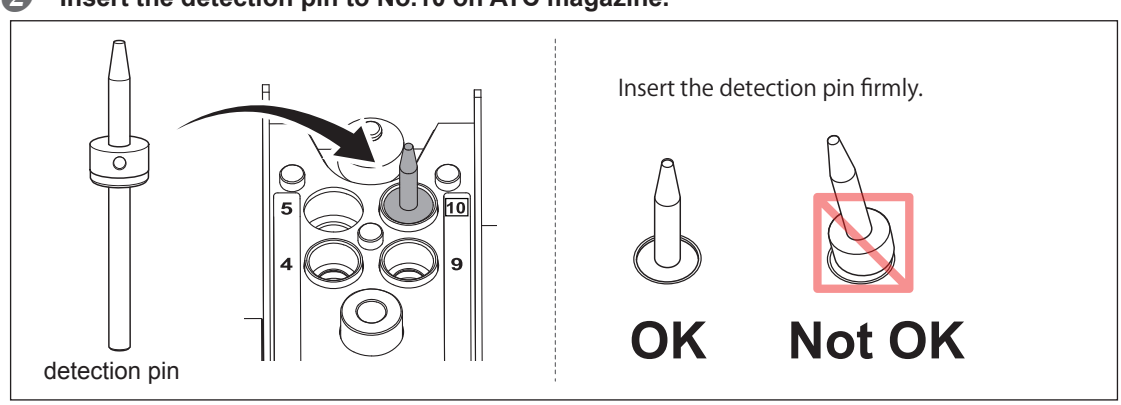
1. Install the detection pin.

❶ **Use the supplied cloth for care to clean the detection pin, automatic correction jig, and central protrusion on the ATC magazine.**

If any dirt is affixed, correction might not occur properly.

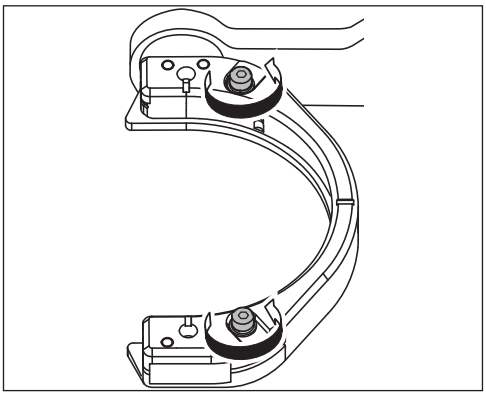


❷ **Insert the detection pin to No.10 on ATC magazine.**



2. Attach the automatic correction jig.

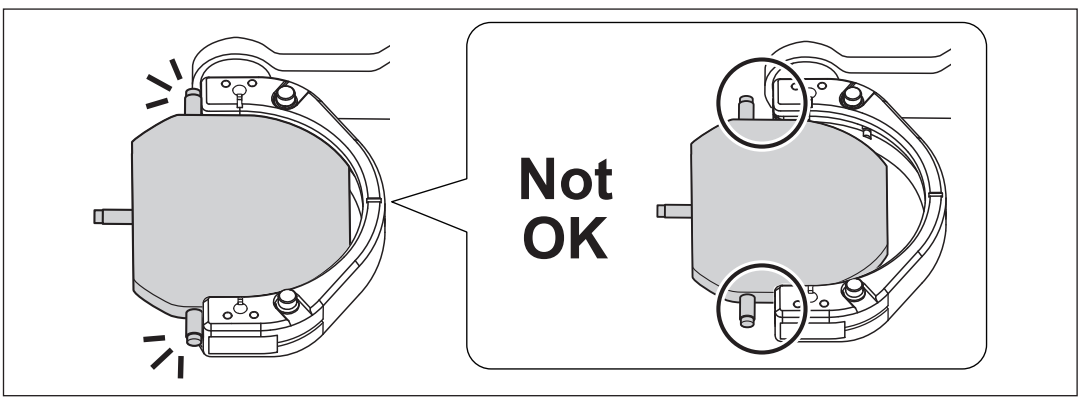
❶



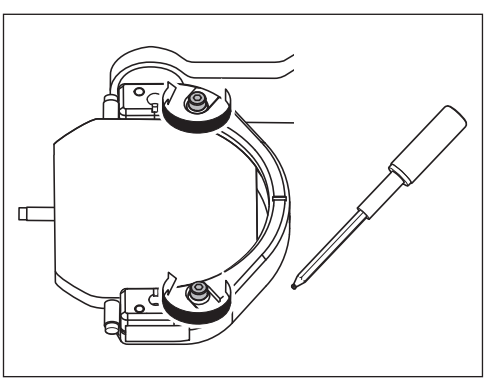
Loosen the screws about 3 turns using a torque driver. (2 locations)

❷ **Attach the automatic correction jig.**

Push in until the protrusion comes into contact with the clamp.The jig can be attached with either surface facing up.



❸



① **Loosely tighten using a torque driver. (2 locations)**

Alternately tighten the screws in two locations little by little.

② **Fully tighten the screws.**

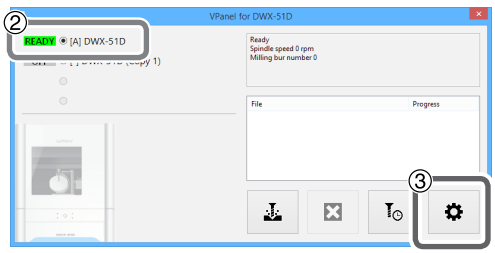
Notice

Tightening the screws without first lightly tightening them may cause the automatic correction jig to become tilted.

❹ **Close the front cover.**

3. Perform automatic correction.

❶



① Show VPanel.

☞ P. 38"STEP 9: Running In the Spindle" step ❷

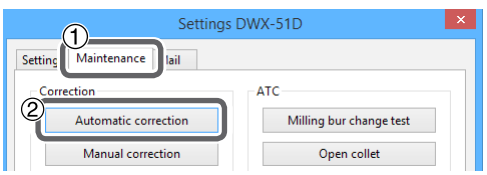
② Select a machine to operate.

Click the radio button to the left of the name of the machine to operate.

③ Click ⚙.

The [Settings] screen will appear.

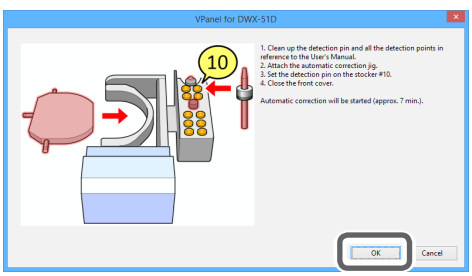
❷



① Click the [Maintenance] tab.

② Click [Automatic correction].

❸

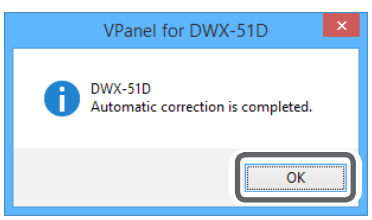


① Make sure that the work displayed on the screen is complete.

② Click [OK].

Automatic correction starts.

❹

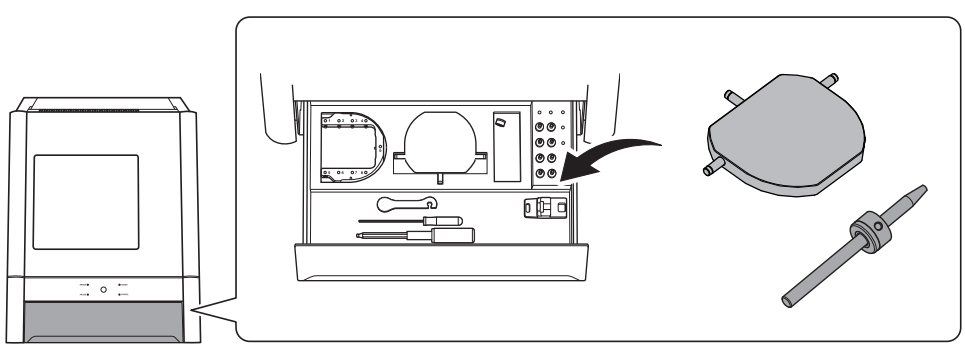


Automatic correction is complete once the screen in the figure is displayed.

Click [OK].

❺ **Once automatic correction is complete, remove the detection pin and the automatic correction jig.**

Turn the screws securing the automatic correction jig about 2 times to remove them. Store the detection pin and the automatic correction jig in the storage compartment.



Connecting Multiple Units

Connection Method

Up to four machines can be concurrently connected to a computer. When more than one machine is connected, each machine needs to be identified on VPanel. An ID (A, B, C, and D) must be assigned to each machine to configure the settings for each machine.
The explanations in this section assume that one machine is already connected and describe how to connect one or more additional machines.

☞ P. 35"Installation Procedure"

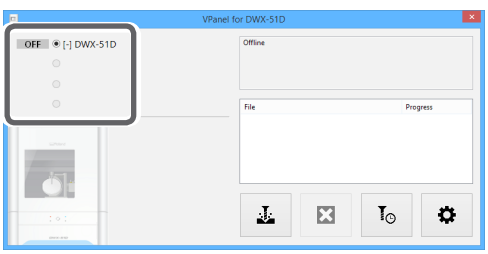
Procedure

1 Show VPanel.

☞ P. 38"STEP 9: Running In the Spindle" step 2

2 Turn off the power of the connected machine, and then disconnect the USB cable from the computer.

3

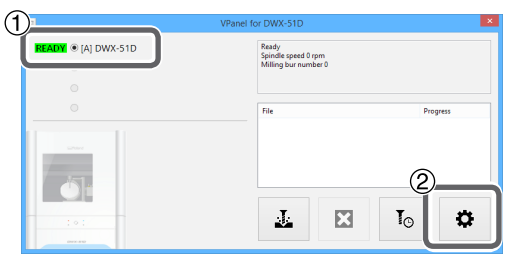


Verify that "OFF" is displayed as the operation status for all machines and that "Ready" is not displayed.

4 Switch on the power of the machine to be newly connected, and connect the USB cable to the computer.

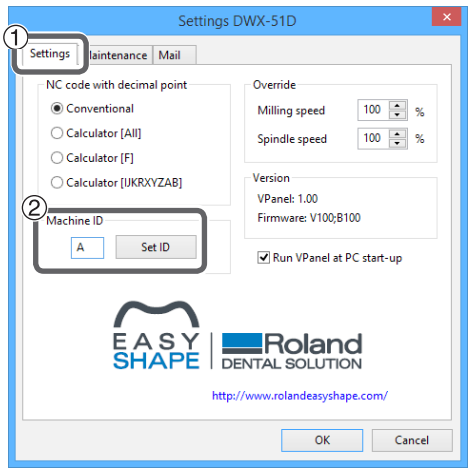
➢ Configure the connections one machine at a time. Be sure to connect only the machine to be configured. If you connect more than one machine with the same ID at the same time, the computer might shut down or make driver installation impossible.
➢ For the USB cable, use the included cable.
➢ Do not use a USB hub. Connection may not be possible.

5



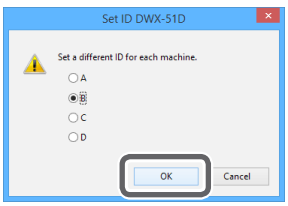
① Select the machine that displays READY.
② Click ⚙.
The [Settings] screen will appear.

6



① Click the [Settings] tab.
② Click [Set ID].
The [Set ID] selection screen opens.

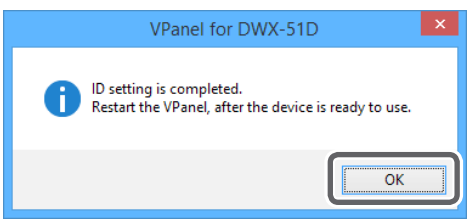
7



Select any unused ID, and click [OK].
"A" is assigned as the ID of the machine by default. Since A is assigned to the first machine, be sure to select B, C, or D for subsequent machines.

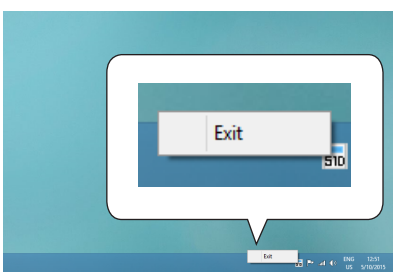
Do not set duplicate IDs. If you connect more than one machine with the same ID at the same time, the computer might shut down or make driver installation impossible.

8



When the window shown to the left appears, click [OK].
The machine will be restarted. The driver for the machine with the new ID will be installed automatically.

9

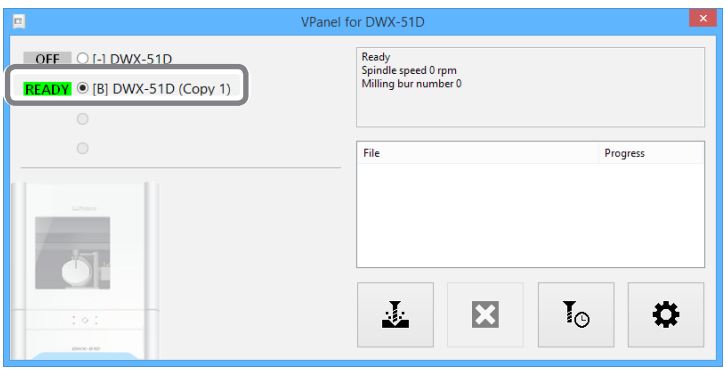


Exit VPanel.
Right-click 51D (VPanel icon) in the task tray and select "Exit" to exit VPanel.

⑩ Start VPanel.

☞ P. 38 "How to start VPanel from the Windows [Start] screen (or [Start] menu) of Windows"

The selected ID is now enabled. Verify that the selected ID is displayed on the top window. If the name of the machine has not been changed, "DWX-51D (Copy 1)" is displayed. ("DWX-51D (Copy 2)" is displayed for the third machine.)



You can connect all the machines with configured settings to the computer using the USB cables. At this point, connecting more than one machine with the same ID at the same time may cause the computer to shut down.

Repeat steps ② to ⑩ to connect a third or fourth machine.

Point

To change the name of a machine that has been set, change the name of the installed printer (the machine you are using) as follows.

① Open the folder.

Windows 8.1

On the [Start] screen, click . From the [Apps] screen, click [View devices and printers].

Windows 8

From the [Start] screen, point to the lower-right corner of the screen to display the charms, and click [Settings]. In [Control Panel], click [View devices and printers].

Windows 7

From the [Start] menu, click [Control Panel], [Hardware and Sound] and then [Devices and Printers].

Windows Vista

From the [Start] menu, click [Control Panel], [Hardware and Sound] and then [Printers].

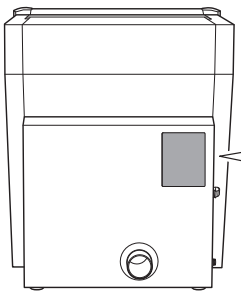
② Select the name of the machine (Printer) you are using, and change the name.

③ Restart VPanel.

The changed name appears on the top window.

Specifications

Power Rating and Serial Number Locations

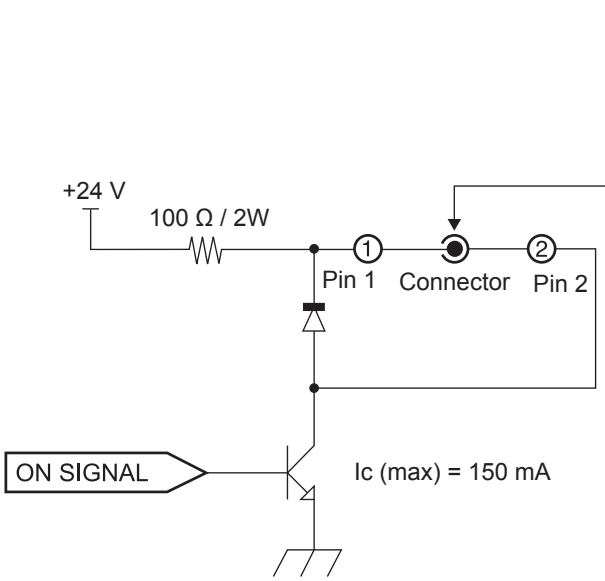


Serial number
The serial number is required for maintenance, servicing, and support. Never peel off the label or let it get dirty.

Power rating
Use an electrical outlet that meets the ratings for voltage, frequency, and current given here.

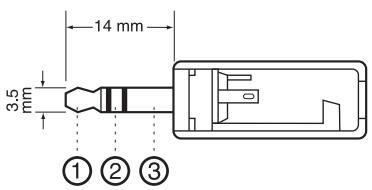
Expansion Connector Specification

*We are not responsible for devices connected to this connector.



This circuit operates when an ON signal is output from the machine (during milling, ATC operation, etc.).

Adaptive plug



Use a three-contact plug that meets the size requirements above.

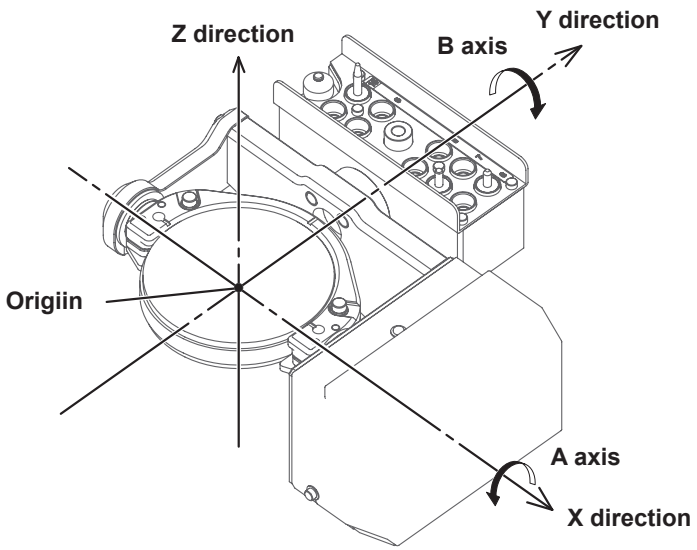
Notice

Do not use terminal ③. Use only terminals ① and ②.

Notice

- **Be sure to use the connector within the rated range shown above.**
- **Do not apply an additional voltage to the connector.**
- **Do not short-circuit the connector to ground.**

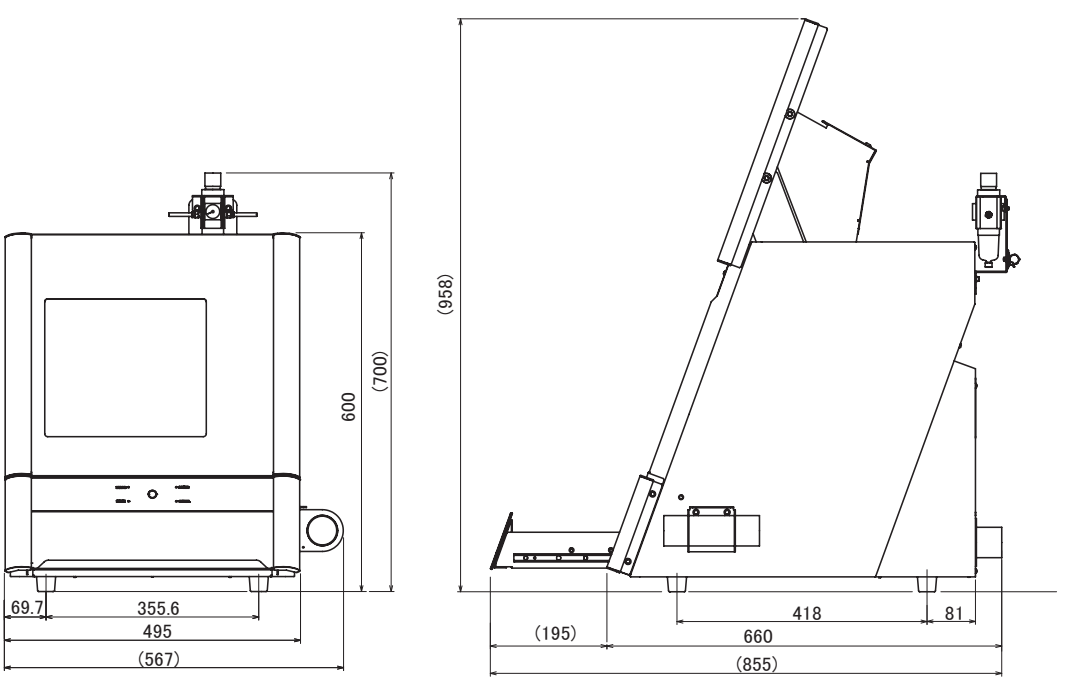
Coordinates



Dimensional Drawings

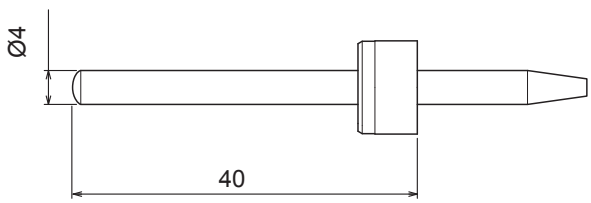
External Dimensions

Unit: mm



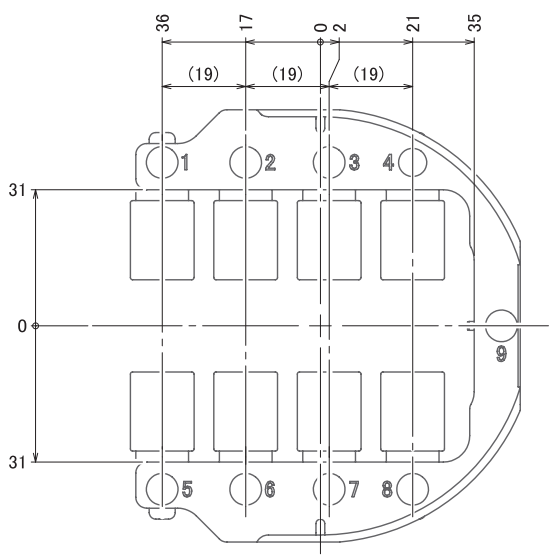
Detection Pin Dimensions

Unit: mm



Clamp Dimensions

Unit: mm



Specifications

	DWX-51D	
Millable material*	Zirconia PMMA, PEEK, and Composite resin Wax Gypsum	
Loadable workpiece shape	Disk type (with step)	Step section: 98.5 mm (diameter), height 10mm Body section: 95 mm (diameter), height max. 60mm
	Pin type	Pin diameter: 6 mm
Operating speed	XYZ axis: 6 to 1800 mm/min. (0.24 to 70.9 in./min.)	
Spindle motor	Brushless DC motor	
Spindle speed	6,000 to 30,000 rpm	
Rotary axis travel angle	A: ±360° B: ±30°	
Number of milling burs housed	10	
Attachable milling bur	Shank diameter: 4 mm, length: 40 to 55 mm	
Compatible compressed air	0.02 to 0.2 MPa	
Interface	USB (compliant with Universal Serial Bus Specification Revision 1.1)	
Control command set	RML-1, NC code	
Power requirements	AC 100 to 240 V ± 10%, 50/60 Hz , 2.0 A (overvoltage category II, IEC 60664-1)	
Power consumption	Approx. 200 W	
Operating noise	During operation: 70 dB (A) or less (when not cutting), during standby: 45 dB (A) or less	
External dimensions	Width x depth x height: 495 × 660 × 600 mm (19.5 × 26.0 × 23.6 in.)	
Weight	67 kg (148 lb.)	
Installation environment	Indoor use at altitudes up to 2000 m Temperature: 5 to 40 °C (41 to 104 °F), humidity: 35 to 80% (no condensation) Ambient pollution degree: 2 (as specified by IEC 60664-1) Short-term temporary overvoltage: 1440 V Long-term temporary overvoltage: 490 V	
Included items	Power cord, USB cable, manuals, Roland software package CD, detection pin, automatic correction jig, pin-type material adapter, hexagonal screwdriver, spanner, milling bur holders, milling bur positioner, dust collection hoses, dust collection hose adapter, regulator, etc.	

* Even when made from the described materials, some workpieces cannot be milled due to specifications or physical properties. For more information, contact your authorized Roland DG Corporation dealer.

System Requirements for USB Connection

Computer	Model preinstalled with the 32- or 64-bit edition of Windows Vista, 7, 8, or 8.1 or an upgraded computer originally preinstalled with Windows Vista or later
USB cable	Use the included USB cable.

For China

产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
印刷电路板	×	○	×	○	○	○
头部	×	○	○	○	○	○
壳体、底架	×	○	○	○	○	○
电源	×	○	×	○	○	○
其他（电缆、附件等）	×	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T26572-2011 标准规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 GB/T26572-2011 标准规定的限量要求。

环保使用期限

此标志适用于在中国国内销售的电子信息产品，表示环保使用期限的年数。
所谓环保使用期限是指在自制造日起的规定期限内，产品中所含的有害物质不致引起环境污染，不会对人身、财产造成严重的不良影响。
环保使用期限仅在遵照产品使用说明书，正确使用产品的条件下才有效。
不当的使用，将会导致有害物质泄漏的危险。

For EU Countries

This product must be disposed of separately at your local waste recycling center. Do not dispose of in household waste bin.

Bitte führen Sie dieses Produkt separat Ihrer örtlichen Entsorgungsstelle zu. Bitte nicht mit dem normalen Hausmüll entsorgen.

Ne jetez pas le produit avec vos ordures ménagères. Portez-le dans un centre recyclage des déchets.

Questo prodotto deve essere smaltito negli appositi contenitori per la raccolta differenziata, non buttare nel cestino dei rifiuti casalinghi.

Este producto debe devolverse al centro de reciclaje más cercano a su domicilio para su correcta eliminación. No lo tire a la basura.

Deite fora separadamente este produto no seu centro de reciclagem local. Não o deite fora no seu caixote do lixo.

Lever dit product in bij een lokaal afvalverzamelpunt. NIET met normaal huishoudelijk afval afvoeren.

Dette Produkt skal smides særskilt væk på den lokale affalds- og genbrugsstation. Må ikke smides ud sammen med almindeligt husholdningsaffald.

Tätä tuotetta ei saa hävittää normaalien talousjätteiden mukana, vaan se on toimitettava ongelmajätteiden keräilypisteeseen hävitettäväksi.

Produkten måste kasseras separat på din lokala återvinningscentral. Släng inte produkten tillsammans med hushållssoporna.

Μην πετάξετε το αντικείμενο αυτό στο καλάθι των απορριμμάτων. Αφαιρέστε τις μπαταρίες και προσκομίστε το στο τοπικό κέντρο ανακύκλωσης.

R1-150702